

**1996 ANNUAL REPORT OF  
THE BOARD OF TRUSTEES OF THE  
FEDERAL SUPPLEMENTARY MEDICAL INSURANCE  
TRUST FUND**

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**COMMUNICATION**

**From**

**THE BOARD OF TRUSTEES,  
FEDERAL SUPPLEMENTARY MEDICAL INSURANCE  
TRUST FUND**

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**Transmitting**

**THE 1996 ANNUAL REPORT OF THE BOARD,  
PURSUANT TO  
SECTION 1841(b) OF THE SOCIAL SECURITY ACT,  
AS AMENDED**



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1996

LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE  
FEDERAL HOSPITAL INSURANCE TRUST FUND  
Washington, D.C., June 5, 1996


HONORABLE Newt Gingrich  
Speaker of the House of Representatives  
Washington, D.C.

HONORABLE Albert Gore, Jr.  
President of the Senate  
Washington, D.C.

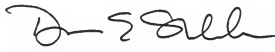
GENTLEMEN:

We have the honor of transmitting to you the 1996 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund (the 31st such report), in compliance with the provisions of section 1817(b) of the Social Security Act.

Respectfully,

  
Robert E. Rubin, *Secretary of the  
Treasury, and Managing  
Trustee of the Trust Fund.*

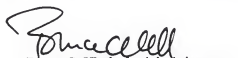
  
Robert B. Reich, *Secretary of Labor,  
and Trustee.*

  
Donna E. Shalala, *Secretary of  
Health and Human Services,  
and Trustee.*

  
Shirley S. Chater, *Commissioner  
of Social Security, and Trustee.*

  
Stephen G. Kellison, *Trustee.*

  
Marilyn Moon, *Trustee.*

  
Bruce C. Vladeck, *Administrator  
of the Health Care Financing  
Administration, and Secretary,  
Board of Trustees.*



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## I. OVERVIEW

### A. INTRODUCTION

The Supplementary Medical Insurance (SMI) program, or Medicare Part B, pays for physician, outpatient, and other services for the aged and disabled. The SMI program is financed primarily by transfers from the general fund of the U.S. Treasury and by monthly premiums paid by beneficiaries. Income not currently needed to pay benefits and related expenses is held in the SMI trust fund, and invested in U.S. Treasury securities.

The Board of Trustees was established under the Social Security Act to oversee the financial operations of the SMI trust fund. The Board is composed of six members. Four members serve by virtue of their positions in the Federal Government: The Secretary of Treasury who is the Managing Trustee, the Secretary of Labor, the Secretary of Health and Human Services, and the Commissioner of Social Security. The other two members are appointed by the President and confirmed by the Senate to serve as Public Trustees. Stephen G. Kellison and Marilyn Moon began serving on July 20, 1995. The Administrator of the Health Care Financing Administration (HCFA) is designated as Secretary of the Board.

The Social Security Act requires that the Board report to the Congress annually on the financial and actuarial status of the SMI trust fund. This 1996 report is the 31st to be submitted. Due to uncertainty about the future, the financial condition of the SMI trust fund is examined under three alternative sets of assumptions: "low cost," "intermediate," and "high cost." These alternatives are intended to illustrate a reasonable range of possible outcomes. The intermediate assumptions represent the Trustees' best estimate of the expected future economic and demographic trends. The financial adequacy of the SMI program is evaluated for calendar year 1996. Detailed information about trends in program costs and income is provided for the decade ending in 2005, and in less detail throughout a 75-year valuation period ending in 2070.

## Overview

### B. HIGHLIGHTS

The major findings of this report are summarized below. Unless otherwise noted, all estimates are based on the intermediate assumptions.

- In 1995, the SMI program provided protection against the costs of physician and other medical services to nearly 36 million people. Approximately 84 percent of these individuals received medical services covered by SMI during the year and total SMI benefits on their behalf amounted to \$65.0 billion.
- Drawing on both current income and accumulated assets, the SMI program is expected to be able to meet all benefit and administrative obligations throughout calendar year 1996. The SMI trust fund is adequately financed for calendar year 1996 under all three sets of assumptions.
- The SMI trust fund is expected to remain adequately financed into the indefinite future, but only because current law provides for the establishment of program financing each year based on an updated calculation of expected cost per SMI beneficiary.
- Program expenditures have been growing rapidly. Outlays have increased 53 percent over the past 5 years (40 percent on a per-beneficiary basis). During this period the program grew about 22 percent faster than the economy as a whole, despite efforts to control SMI costs.
- SMI expenditures are expected to continue to grow faster than the economy as a whole. SMI outlays were almost 1 percent of the Gross Domestic Product (GDP) in 1995 and are projected to grow to almost 3 percent by 2020.
- Premium income is expected to cover a declining share of program costs. Premiums accounted for 30 percent of outlays in calendar year 1995 and are estimated to account for 16 percent in calendar year 2005 and a progressively lower share thereafter.
- We note with great concern the past and projected rapid growth in the cost of the program. Therefore, we urge the Congress to take appropriate steps to more effectively control SMI costs. Prompt, effective, and decisive action is necessary.

## *Highlights*

### **Key SMI Data for Calendar Year 1995:**

- SMI covered about 32 million aged and 4 million disabled persons who chose to enroll in the program.
- SMI benefits amounted to \$65.0 billion, about an 11 percent increase over the prior year. Average expenditures per SMI enrollee increased by 9 percent to \$1,824.
- Administrative costs were \$1.6 billion or less than 3 percent of program expenditures.
- Summary of SMI trust fund operations in 1995 (in billions):

Fund Balance (12/31/94)	\$19.4
Income	60.3
Expenditures	66.6
Fund Balance (12/31/95)	13.1
Net Change in Balance	-6.3

- General revenue accounted for about 65 percent of income. Premiums were the second largest source of income, accounting for about 33 percent of the total. Interest and other miscellaneous income accounted for the remainder, or about 3 percent of income.
- Payments for the costs of physician and other professional services represented 65 percent of SMI benefits. Payments to facilities accounted for another 24 percent and managed care plans accounted for the final 11 percent.
- About 84 percent of persons enrolled in the SMI program received medical services during the year that were paid for either wholly or partially by SMI funds.

## *Overview*

### **C. 1995 TRUST FUND FINANCIAL OPERATIONS**

The SMI income in calendar year 1995 was \$60.3 billion and total expenditures were \$66.6 billion. The fund balance therefore decreased by a net total of \$6.3 billion. The decline in the balance was a result of intentionally establishing financing for calendar year 1995 to reduce assets (see section I.E) and as a result of a shortfall in general revenue transfers, as explained below. As of December 31, 1995 the SMI trust fund had a balance of \$13.1 billion.

#### **1. Income**

The \$60.3 billion in income received by the SMI program last year was derived from the following sources:

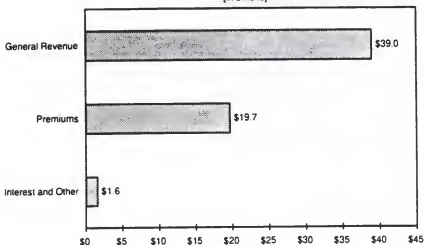
- General revenue. Transfers from the general fund of the Treasury were the largest source of income, accounting for \$39.0 billion or about 65 percent of total SMI income in calendar year 1995. The general revenue contribution is determined, based on expected cost per beneficiary less expected premium collections, following a statutory formula. In effect, general revenue approximately makes up the difference between premium collections plus other income and expected total program costs. The statutory formula also allows for the maintenance of a small reserve to cover any unforeseen contingencies.

A scheduled general fund transfer of \$6.7 billion could not be made in December 1995, due to the absence of funding during that month. Thus, SMI income for 1995 was lower than normal, contributing to the substantial reduction in the fund balance. The transfer was subsequently made in March 1996, and included interest lost as a result of the delay.

- Premiums. Premium collections amounted to \$19.7 billion or about 33 percent of calendar year 1995 income. Premium rates are set annually, based on a method specified in the law. A 1990 law set the premium rates for 1991 through 1995. In calendar year 1995 the SMI premium was \$46.10 per month.
- Interest. Interest income on the U.S. Treasury securities held by the trust fund plus a very small amount of other income amounted to \$1.6 billion or less than 3 percent of total SMI income in calendar year 1995.

## Trust Fund Financial Operations

Figure I.C1.—SMI Income in Calendar Year 1995  
[In billions]



## 2. Expenditures

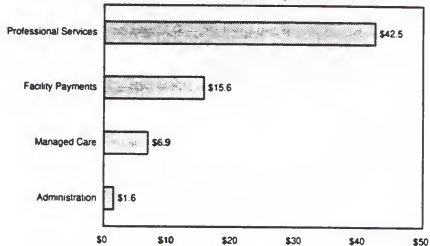
The SMI program spent \$66.6 billion last year. The major expenditures were:

- **Benefit payments.** More than 97 percent of SMI outlays in calendar year 1995 were for benefit payments to providers of services and managed care plans. Managed care payments were \$6.9 billion, or about 11 percent of all benefit payments. This represented a 25 percent increase over the corresponding figure for calendar year 1994, reflecting rapid growth in numbers of beneficiaries choosing to join Health Maintenance Organizations (HMOs). Within the fee-for-service sector, \$42.5 billion was paid for physician and other professional services last year, the largest type of benefit payment, making up 65 percent of total benefits. These payments grew 9 percent over the previous year. Finally, payments to facilities (\$15.6 billion), such as outpatient facilities and skilled nursing facilities increased about 10 percent from calendar year 1994 to calendar year 1995 and made up about 24 percent of total SMI benefit outlays in calendar year 1995.
- **Administrative expenses.** About \$1.6 billion, or less than 3 percent, of SMI program outlays during calendar year 1995 paid the administrative expenses of the program, which included funds to support the Medicare carriers and intermediaries (generally,

## Overview

insurance companies) who assist in administering SMI as well as funds for federal salaries and related expenses.

**Figure LC2—SMI Expenditures in Calendar Year 1995**  
[in billions]



**D. ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS**

Actual future costs of benefits under the SMI program will depend on a number of factors, apart from any possible changes in law and regulations. These factors include the size and composition of the population eligible for benefits, the volume and intensity of SMI covered services used per beneficiary, and changes in the price per service. Similarly, expected premium income will depend on the number of beneficiaries enrolled in SMI, among other factors, and interest income to the trust fund will depend on future interest rates.

To take account of the uncertainty inherent in forecasting many of these factors, projections of SMI income and costs have been developed under three alternative scenarios, known as "low-cost", "intermediate", and "high cost." For simplicity of presentation, much of the analysis in this overview centers on the projections under intermediate assumptions. However, it is important to recognize that actual conditions are very likely to differ from that scenario or any other specific set of assumptions.

Some of the key demographic and economic variables that determine SMI costs and income are common to the Old-Age, Survivor's, and Disability Insurance (OASDI) program, the Hospital Insurance (HI) program, and the SMI program and are explained in detail in the report of the Board of Trustees of the OASDI program. As shown in table I.D1 below, these include Consumer Price Index (CPI) change, real interest rates, fertility rates, and life expectancy. ("Real" indicates that the effects of inflation have been removed, allowing better comparisons across time periods.) The assumptions vary, in most cases, from year to year during the first 5 to 25 years before reaching their so-called "ultimate" values for the remainder of the 75-year projection period. These ultimate values are shown in the table below.

**Table I.D1.—Ultimate Assumptions**

	Intermediate	Low Cost	High Cost
Annual percentage change in			
Consumer Price Index (CPI) .....	4.0	3.0	5.0
Real interest rate (percent) .....	2.3	3.0	1.5
Fertility rate (children per woman) .....	1.9	2.2	1.6
Life expectancy in 2070 (in years):			
Male .....	78.4	73.0	82.3
Female .....	84.1	79.3	88.0

### *Overview*

Other assumptions are specific to the SMI program. These SMI assumptions include rates at which beneficiaries will use particular services or types of services, the amount of the physician fee update, and the rates at which eligible elderly and disabled persons will enroll in SMI.

While it is reasonable to assume that actual trust fund experience will fall within the range defined by the three alternative sets of assumptions, no definite assurance can be given in light of the wide variations in experience that have occurred since the beginning of the program. In general, a greater degree of confidence can be placed in the assumptions and estimates for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the expected trend and the general range of future program experience.



## **E. ACTUARIAL ANALYSIS**

The financial status of the SMI program, and how it is evaluated, differ fundamentally from the OASDI and HI programs. These differences arise from the nature of the financing for SMI. In particular, the SMI premium and the corresponding income from general revenues are established annually at a level sufficient to cover the following year's expenditures. Thus, the SMI program is automatically in financial balance under present law, in contrast to OASDI and HI, where financing established many years earlier may prove significantly higher or lower than subsequent actual costs. Moreover, the SMI program is voluntary (whereas OASDI and HI are generally compulsory) and income is not based on payroll taxes. These differences result in a financial assessment that differs in some respects from those for OASDI and HI, as described in the following sections.

### **1. Financial Adequacy in Calendar Year 1996**

The SMI program is traditionally considered to have met the primary tests of financial adequacy if the financing established for a given period (e.g., through the end of calendar year 1996) is sufficient to fund all services provided through that period and associated administrative expenses. Further, to protect against the possibility that cost increases under the program will be higher than assumed the program needs assets adequate to cover a reasonable degree of variation between actual and projected costs. These traditional tests of adequacy reflect, in part, the similarity of SMI to some private sector group health insurance plans.

According to these tests, the financing established through December 1996, which includes a premium rate of \$42.50 for calendar year 1996, is estimated to be sufficient to cover benefits and administrative costs incurred through that time period. The tests of financial adequacy are met under intermediate assumptions as well as lower range and upper range projections. Planned program financing is sufficient to maintain a level of trust fund assets that is adequate to cover a reasonable degree of variation between actual costs and projected costs.

The amount of the contingency reserve needed in SMI is much smaller (both in absolute dollars and as a fraction of annual program costs) than in the HI or OASDI programs. This is so because the SMI premium rate and corresponding general revenue transfers are determined annually based on estimated future costs while the HI and OASDI payroll tax rates are set in law and are therefore much more difficult to adjust

## Overview

should circumstances change. Minimal adjustments were made to the SMI financing levels established for 1996, as the projected asset level was considered to be in the appropriate range.

## 2. SMI Trust Fund Outlook After Calendar Year 1996

Table I.E1 shows the estimated operations of the SMI trust fund under the intermediate assumptions during calendar years 1995 through 2005. This table shows that both income and expenditures are estimated to grow at double-digit rates for most of the ten-year period. Income and outgo would remain in balance, as a result of the annual adjustment of premium and general revenue income to match program costs. After 1995, assets held in the trust fund are projected to increase sufficiently to maintain an adequate contingency reserve for the program. Similar projections under the low cost and high cost assumptions are shown in section II of this report. Under all assumptions, the SMI program would grow rapidly but would remain adequately financed into the indefinite future because of the automatic financing on a year-to-year basis.

Table I.E1.—Estimated Operations of the SMI Trust Fund Under Intermediate Assumptions, Calendar Years 1995-2005  
(In billions)

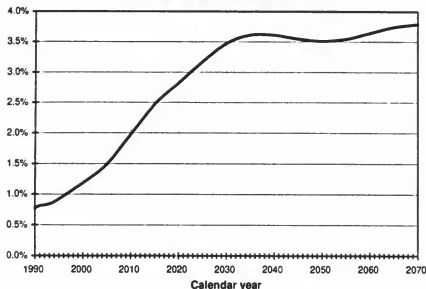
Calendar year	Total income	Total expenditures	Change in fund	Fund at year end
1995	\$60.3	\$66.6	-\$6.3	\$13.1
1996	84.6	73.0	11.6	24.8
1997	81.8	81.1	0.8	25.6
1998	90.0	89.3	0.7	26.2
1999	98.7	98.0	0.7	26.9
2000	108.6	107.7	0.9	27.8
2001	121.8	118.9	2.9	30.7
2002	134.6	131.4	3.2	34.0
2003	149.4	145.6	3.8	37.7
2004	166.1	161.8	4.3	42.0
2005	185.1	180.3	4.8	46.9

Even though the SMI program is considered adequately financed by traditional standards, there are trends that the Trustees believe need to be taken into account in the development of Medicare policy. The two most important trends are: (1) continued growth in the cost of the program at a rate more rapid than the growth of the economy as a whole; and (2) the declining share of premiums as a source of funding for the program (and thus the increasing share of general revenue).

Figure I.E1 uses intermediate assumptions to project SMI expenditures as a percent of GDP from the present through 2070. Annual SMI expenditures would grow from less than one percent of GDP in 1996 to

over 3 percent of GDP within 30 years. This projection illustrates the increasing cost to society of supporting the benefits provided under the SMI program. Similarly, on a combined basis, Medicare (both HI and SMI) would grow from not quite 3 percent of GDP in 1996 to almost 9 percent of GDP by 2070.

Figure 1.E1.—SMI Expenditures as a Percent of GDP



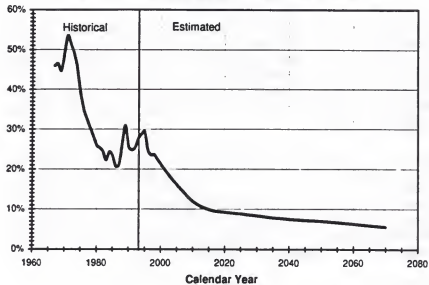
Projecting forward 75 years is difficult, given the many uncertainties about future performance of the economy and other variables, but it has the advantage of allowing for the presentation of future trends that may reasonably be expected to occur. Most importantly, this forecast reflects: (1) continuing rapid growth in the volume and intensity of services provided per beneficiary over the next decade; and (2) the impact of a large increase in SMI beneficiaries after the turn of the century as the “baby boom” generation (those born between 1945 and 1965) turns age 65 and begins to receive benefits.

In this intermediate projection, increases in the cost per beneficiary during the initial 25-year period are assumed to decline gradually in the last 12 years of that period to the same growth rate as GDP per capita and then to continue at the same rate as GDP per capita for the following 50 years. Therefore, changes in the next 50 years of the period are attributable only to demographic change in the population. This assumption may seem at odds with historical experience, since SMI costs per beneficiary have increased faster than GDP per capita since

### *Overview*

the inception of the program. However, assuming a continuation of the historical trend for another 75 years would result in an SMI program so large as a percent of GDP that it would be implausible given other demands on those resources. Thus the intermediate projection can be viewed as a middle ground between assuming the continuation of historical trends and assuming that there will be moderation of growth in the health care sector of the national economy and in particular in the Medicare program.

Figure I.E2 displays SMI premium income as a percent of total SMI costs throughout the same 75-year projection period, under intermediate assumptions. Current law sets the premium rate at 25 percent of aged beneficiary program costs during calendar year 1996 through 1998, and limits premium growth thereafter to the rate of increase in Social Security cash benefits. The effect of this policy, given projected program benefit growth, is that premium income would decline significantly as a percent of projected program costs after 1998, in the absence of further legislation. Premium collections are expected to represent slightly less than 25 percent of total SMI expenditures in calendar year 1996. By 2070 this percentage is projected to be only 6 percent.

**Figure I.E2.—Premium Income as a Percent of SMI Expenditures**

As premium collections decline as a source of funding for SMI expenditures, general revenue becomes a larger source of income to the program. This change would shift a greater share of program financing from the beneficiaries to the general taxpaying public. The Trustees believe that policy makers will need to consider the implications of this trend in determining future financing for the SMI program.

## **F. CONCLUSION**

The financing established for the SMI program for calendar year 1996 is estimated to be sufficient to cover program expenditures for that year and to preserve an adequate contingency reserve in the SMI trust fund. Moreover, trust fund income is projected to equal expenditures for all future years—but only because beneficiary premiums and government general revenue contributions are automatically increased to meet expected costs each year.

As in past years, we note with great concern that program costs have been growing faster than the GDP and that this trend is expected to continue under present law. Initially, this rapid growth is attributable primarily to assumed continuing rapid growth in the volume and intensity of services provided per beneficiary. Starting in 2010, the retirement of the post-World War II baby boom generation will also have a major influence on the growth in program costs.

Of additional concern is the fact that premium income after 1998 is projected to cover a progressively smaller fraction of SMI expenditures, shifting a greater share of program financing from beneficiaries to the general public.

Given the past and projected cost of the program, we urge the Congress to take additional actions designed to control SMI costs in the near term. For the longer term, the Congress should develop legislative proposals to address the large increases in SMI costs associated with the baby boom's retirement through the same process used to address HI cost increases caused by the aging of the baby boom. We believe that prompt, effective, and decisive action is necessary.

## **II. ACTUARIAL ANALYSIS**

### ***A. MEDICARE AMENDMENTS SINCE THE 1995 REPORT***

Since the 1995 Annual Report was transmitted to Congress on April 3, 1995, one law affecting the SMI program has been enacted. The Senior Citizens' Right to Work Act of 1996 (Title I of Public Law 104-121, enacted into law on March 29, 1996) included a number of provisions affecting the SMI program. The more important provisions, from an actuarial standpoint, are described in the following paragraphs.

- Eligibility to disability insurance benefits, and therefore SMI benefits, is prohibited for individuals whose drug addiction and/or alcoholism is a contributing factor material to the finding of disability. This provision applies to individuals who file for benefits on or after March 29, 1996 and to individuals whose claims are finally adjudicated on or after this date. The provision also becomes effective for current beneficiaries on January 1, 1997, after notification within 90 days following enactment. New medical determinations must be completed by January 1, 1997, for current beneficiaries who are affected and who request a determination within 120 days after the date of enactment.
- Additional funds are authorized for fiscal years (FY) 1996 through 2002 for the purpose of conducting continuing disability reviews of disability insurance beneficiaries. The funds made available under this provision are to be used, to the greatest extent practicable, to maximize the combined savings to the OASDI, Supplementary Security Income, HI, SMI, and Medicaid programs.

### ***B. NATURE OF THE TRUST FUND***

The Federal SMI Trust Fund was established on July 30, 1965, as a separate account in the United States Treasury. All the financial operations of the SMI program are handled through this fund.

The major sources of revenue of the trust fund are: (1) contributions of the Federal Government that are authorized to be appropriated and transferred from the general fund of the Treasury and (2) premiums paid by eligible persons who are voluntarily enrolled in the program. Eligible persons aged 65 and over have been able to enroll in the program since its inception in July 1966. Since July 1973, disabled persons under age 65, who have met certain eligibility requirements, have also been able to enroll in the program.

### *Actuarial Analysis*

The premiums paid by enrollees are based on the standard monthly premium rate, which is the same for enrollees aged 65 and over and for disabled enrollees under age 65. In the early years of the program, FY 1967 through 1973, when only persons aged 65 and over were covered, the premium rate was set by law to cover 50 percent of program costs. Beginning July 1973, eligibility was extended to disabled individuals under 65. The premium rates for FY 1974 and 1975 still were set to cover 50 percent of program costs but only for aged enrollees. As a result, the standard premium rates payable by the disabled enrollees met less than 50 percent of their costs.

Beginning with FY 1976 and extending through June 1983, the percentage increase in the premium rate was limited to the percentage increase in Social Security benefits. During this period, since SMI program costs were increasing faster than increases in Social Security benefits, the portion of program costs covered by the premium steadily declined to approximately 25 percent by June 1983. In January 1984, the financing period changed to a calendar-year basis, and for the transitional period, July 1983 through December 1983, the premium remained frozen. Under legislation enacted periodically during the period 1984 through 1990, the premium was set to cover 25 percent of the program costs for aged enrollees. In 1990, the Congress legislated specific premium rates for 1991 through 1995. For 1996 through 1998, the premium rates will be set to cover 25 percent of the program costs for aged enrollees. For 1999 and later the percentage increase in the premium, again, will be limited to the percentage increase in Social Security benefits.

Beginning July 1973 when eligibility was extended to disabled individuals under 65, in addition to the monthly premium rate, two other monthly rates were established: the actuarial rate for enrollees aged 65 and over and the actuarial rate for disabled enrollees under age 65. The monthly actuarial rate for each of the two respective groups of enrollees equals one-half of the monthly projected cost of benefits and administrative expenses for that group, adjusted to allow for interest earnings on assets in the trust fund and to maintain a sufficient contingency margin. (The contingency margin is an amount appropriate to provide for a moderate degree of variation between actual and projected costs.) For those years when the premium rate is set to cover 25 percent of the program costs for aged enrollees, the premium rate is set to be 50 percent of the actuarial rate for enrollees aged 65 and over.

Premiums paid for FY 1967 through 1973 were matched by an equal amount of Government contributions. Beginning July 1973, the amount



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of Government contributions corresponding to premiums paid by each of the two groups of enrollees is determined by applying a "matching ratio," prescribed in the law for each group, to the amount of premiums received from that group. The ratio is equal to: (1) twice the monthly actuarial rate applicable to the particular group of enrollees, minus the standard monthly premium rate, divided by (2) the standard monthly premium rate.

Standard monthly premium rates and actuarial rates are promulgated each year by the Secretary of Health and Human Services (HHS). The standard monthly premium rates in effect from July 1966 through June 1983, the rate for July 1983 through December 1983, and the rates for calendar years 1984 through 1996 are shown in table II.B1. Actuarial rates in effect from July 1973 and later and the corresponding percentages of program costs covered by the premium rate are also shown. For a detailed discussion of the determination of the actuarial and premium rates, see section III.B.

**Table II.B1.—Standard Monthly Premium Rates, Actuarial Rates, and Premium Rates as a Percent of Program Cost**

	Standard monthly premium rate	Monthly actuarial rate		Premium rates as a percent of program cost	
		Enrollees aged 65 and over	Disabled enrollees under age 65	Enrollees aged 65 and over	Disabled enrollees under age 65
July 1966 - March 1968	\$3.00	-	-	50.0%	-
April 1968 - June 1970	4.00	-	-	50.0	-
12-month period ending June 30 of -					
1971	5.30	-	-	50.0	-
1972	5.60	-	-	50.0	-
1973	5.80	-	-	50.0	-
1974	6.30	\$6.30	\$14.50	50.0	21.7%
1975	6.70	6.70	18.00	50.0	18.6
1976	6.70	7.50	18.50	44.7	18.1
1977	7.20	10.70	19.00	33.6	18.9
1978	7.70	12.30	25.00	31.3	15.4
1979	8.20	13.40	25.00	30.6	16.4
1980	8.70	13.40	25.00	32.5	17.4
1981	9.60	16.30	25.50	29.4	18.8
1982	11.00	22.60	36.60	24.3	15.0
1983	12.20	24.60	42.10	24.8	14.5
July 1983 - December 1983	12.20	27.00	46.10	22.6	13.2
Calendar year					
1984	14.60	29.20	54.30	25.0	13.4
1985	15.50	31.00	52.70	25.0	14.7
1986	15.50	31.00	40.80	25.0	19.0

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**Table II.B1.—Standard Monthly Premium Rates, Actuarial Rates, and Premium Rates as a Percent of Program Cost**

	Standard monthly premium rate	Monthly actuarial rate		Premium rates as a percent of program cost	
		Enrollees aged 65 and over	Disabled enrollees under age 65	Enrollees aged 65 and over	Disabled enrollees under age 65
1987	17.90	35.80	53.00	25.0	16.9
1988	24.80	49.60	48.60	25.0	25.5
1989	31.90 <sup>2</sup>	55.80	34.30	25.0 <sup>3</sup>	40.7 <sup>3</sup>
1990	28.60	57.20	44.10	25.0	32.4
1991	29.90	62.60	56.00	23.9	26.7
1992	31.80	60.80	80.80	26.2	19.7
1993	36.60	70.50	82.90	26.0	22.1
1994	41.10	61.80	76.10	33.3	27.0
1995	46.10	73.10	105.80	31.5	21.8
1996	42.50	84.90	105.10	25.0	20.2

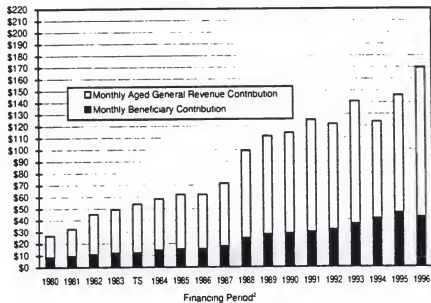
<sup>1</sup>In accordance with limitations on the costs of health care imposed under Phase III of the Economic Stabilization program, the standard premium rates for July and August 1973 were set at \$5.80 and \$6.10, respectively. Effective September 1973, the rate increased to \$6.30.

<sup>2</sup>This is the premium paid by most groups. This rate includes the \$4.00 catastrophic coverage monthly premium which was paid by most enrollees under the Medicare Catastrophic Coverage Act of 1988 (subsequently repealed).

<sup>3</sup>The premium rates as a percent of program cost for calendar year 1989 apply to the non-catastrophic portion of the standard monthly premium rate.

Figures II.B1 and II.B2 are graphic representations of the monthly per capita financing rates, for financing periods since 1980, for enrollees aged 65 and over and for disabled individuals under age 65, respectively. The graphs show the portion of the financing contributed by the beneficiaries and by general revenues. As indicated, general revenue financing is the major source of income for the program.

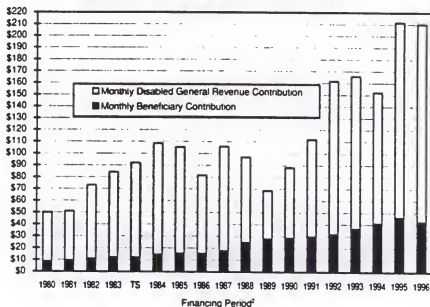
Figure II.B1.—SMI Aged Monthly Per Capita Income<sup>1</sup>



<sup>1</sup>The amounts shown do not include the catastrophic coverage monthly premium rate for 1969.  
<sup>2</sup>For 1963 and earlier, the financing period is July 1 through June 30. For the transitional semester (T.S.), the financing period is July 1, 1963 through December 31, 1963. For 1984 and later, the financing period is January 1 through December 31.

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Figure II.B2.—SMI Disabled Monthly Per Capita Income<sup>1</sup>



<sup>1</sup>The amounts shown do not include the catastrophic coverage monthly premium rate for 1989.

<sup>2</sup>For 1983 and earlier, the financing period is July 1 through June 30. For the transitional semester (T.S.), the financing period is July 1, 1983 through December 31, 1983. For 1984 and later, the financing period is January 1 through December 31.

Another source from which revenue of the trust fund is derived is interest received on investments held by the fund. The investment procedures of the fund are described later in this section. Section 201(i) of the Social Security Act authorizes the Managing Trustee to accept and deposit in the trust fund unconditional money gifts or bequests made for the benefit of the fund or for any activity financed through the fund.

Expenditures for benefit payments and administrative expenses under the program are paid out of the trust fund. All expenses incurred by the Department of HHS, the Social Security Administration (SSA), and by the Department of the Treasury in carrying out the SMI provisions of Title XVIII of the Social Security Act are charged to the trust fund. The Secretary of HHS certifies benefit payments to the Managing Trustee, who makes the payments from the trust fund.

The Social Security Amendments of 1967 and 1972 authorize the Secretary of HHS to develop and conduct a broad range of experiments and demonstration projects designed to determine various methods of increasing efficiency and economy in providing health care services,

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while maintaining the quality of such services under the HI and SMI programs. A sizeable portion of the costs of such experiments and demonstration projects are paid out of the HI and SMI trust funds, with the remainder funded through general revenues.

Congress has authorized expenditures from the trust funds for construction, rental and lease, or purchase contracts of office buildings and related facilities for use in connection with the administration of the SMI program. Both the capital costs of construction financed directly from the trust fund and the rental and lease, or purchase contract costs of acquiring facilities are included in trust fund expenditures. Whatever the manner of acquisition, the net worth of facilities and other fixed capital assets is not carried in the statement of the assets of the trust fund presented in this report. This is because the value of fixed capital assets does not represent funds available for benefit or administrative expenditures and, therefore, is not viewed as being a consideration in assessing the actuarial status of the funds.

That portion of the trust fund which, in the judgment of the Managing Trustee, is not required to meet current expenditures for benefits and administration is invested in interest-bearing obligations of the U.S. Government (including special public-debt obligations described below). Investments may also be made in obligations guaranteed as to both principal and interest by the United States, including certain federally sponsored agency obligations that are designated in the laws authorizing their issuance as lawful investments for fiduciary and trust funds under the control and authority of the United States or any officer of the United States. These obligations may be acquired on original issue at the issue price or by purchase of outstanding obligations at their market price.

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust fund. The law requires that such special public-debt obligations shall bear interest at a rate based on the average market yield (computed on the basis of market quotations as of the end of the calendar month next preceding the date of such issue) on all marketable interest-bearing obligations of the United States forming a part of the public debt which are not due or callable until after the expiration of 4 years from the end of such calendar month. Since its inception, the assets of the SMI program have always been invested in special public-debt obligations.

# Actuarial Analysis

## C. SUMMARY OF THE OPERATIONS OF THE TRUST FUND, FISCAL YEAR 1995

A statement of the revenue and disbursements of the Federal SMI Trust Fund in FY 1995 and of the assets of the fund at the beginning and end of the fiscal year is presented in table II.C1.

Table II.C1.—Statement of Operations of the SMI Trust Fund During Fiscal Year 1995

(In thousands)

Total assets of the trust fund, beginning of period		\$20,918,521
Revenue:		
Premiums from enrollees:		
Enrollees aged 65 and over	\$17,126,269	
Disabled enrollees under age 65	2,117,278	
Total premiums		19,243,546
Transfers from general fund of the Treasury:		
Government contributions:		
Supplementary premiums of enrollees aged 65 and over	31,145,668	
Supplementary premiums of disabled enrollees under age 65	5,842,236	
Total Government contributions		36,987,905
Other		2,573
Interest:		
Interest on investments	1,933,437	
Interest on amounts of interfund transfers <sup>1</sup>	1,271	
Total interest		1,934,708
Total revenue		58,168,732
Disbursements:		
Benefit payments		63,491,225
Administrative expenses:		
Treasury administrative expenses	171	
Salaries and expenses - HCFA <sup>2</sup>	1,344,936	
Salaries and expenses - Office of the Secretary	6,834	
Lim. Adm. Expenses - SSA Annual	354,314	
Lim. Adm. Expenses - SSA OIG	746	
Lim. Adm. Expenses - SSA No Year	1,838	
Pay Assessment Commission	700	
Agency for Health Care Policy and Research	2,318	
Railroad Retirement administrative expenses	5,352	
Office of Personnel Management expenses	169	
Physicians Payment Review Commission	4,176	
Total administrative expenses		1,721,555
Total disbursements		65,212,780
Net addition to the trust fund		-7,044,047
Total assets of the trust fund, end of period		13,874,474

<sup>1</sup>A positive figure represents a transfer of interest to the SMI trust fund from the other trust funds. A

negative figure represents a transfer of interest from the SMI trust fund to the other trust funds.

<sup>2</sup>Includes administrative expenses of the carriers and intermediaries.

Note: Totals do not necessarily equal the sum of rounded components.

### *Summary of the Operations*

The total assets of the trust fund amounted to \$20,919 million on September 30, 1994. During FY 1995, total revenue amounted to \$58,169 million, and total disbursements were \$65,213 million. Total assets thus decreased \$7,044 million during the year to \$13,874 million on September 30, 1995.

Of the total revenue, \$17,126 million represented premium payments by (or on behalf of) enrollees aged 65 and over and \$2,117 million represented premium payments by (or on behalf of) disabled enrollees under age 65. Total premium payments amounted to \$19,244 million, an increase of 13.9 percent over the amount of \$16,895 million for the preceding year. This increase in premiums from enrollees resulted primarily from: (1) the increase from \$36.60 to \$41.10 and the increase from \$41.10 to \$46.10 per month in the standard premium rate that became effective on January 1, 1994 and January 1, 1995, respectively, and (2) the growth of the number of persons enrolled in the SMI program.

Contributions received from the general fund of the treasury amounted to \$36,988 million, which accounted for 63.6 percent of total revenue. This amount consisted of \$31,146 million representing contributions relating to premiums paid by enrollees aged 65 and over, and \$5,842 million representing contributions relating to the premiums paid by disabled enrollees under age 65. The amount of the general fund contributions in FY 1995 was significantly lower than intended due to the FY 1995 appropriation for general fund contributions being established prior to finalizing the financing rates for 1995. This shortfall, which is discussed in more detail in section II.D, was largely responsible for the substantial decline in the SMI trust fund balance during FY 1995. This shortfall was subsequently made up, with interest, in March 1996.

The remaining \$1,937 million of revenue consisted almost entirely of interest on the investments of the trust fund.

Of the \$65,213 million in total disbursements, \$63,491 million represented: (1) benefits paid directly from the trust fund for health services covered under Title XVIII of the Social Security Act and (2) costs of experiments and demonstration projects in providing health care services. The remaining \$1,722 million of disbursements was for administrative expenses. Administrative expenses are allocated and charged directly to each of the four trust funds—old age and survivors insurance (OASI), disability insurance (DI), HI, and SMI—on the basis of provisional estimates. Similarly, the expenses of administering other

### Actuarial Analysis

programs of HCFA are also allocated and charged directly to the general fund of the Treasury on a provisional basis. Periodically, as actual experience develops and is analyzed, the allocations of administrative expenses and costs of construction for prior periods are adjusted by interfund transfers. This adjustment includes transfers between the HI and SMI trust funds and the program management general fund account, with appropriate interest allowances.

Table II.C2 compares the actual experience in FY 1995 with the estimates presented in the 1994 and 1995 annual reports. As noted in the prior section, monthly premiums for 1994 and 1995 were established by law in 1990. The estimates in the 1994 report anticipated higher program expenditures and a lower need to reduce assets for the contingency reserve than the estimates that were used to establish the FY 1995 appropriation for Government contributions. Therefore, the amount of Government contributions for FY 1995 was significantly lower than the estimates in the 1994 report. Overall, however, the estimates were close to actual experience.

**Table II.C2.—Comparison of Actual and Estimated Operations of the SMI Trust Fund, Fiscal Year 1995**

[Dollar amounts in millions]					
Item	Comparison of actual experience with estimates for FY 1995 published in -				
	1995 report		1994 report		
	Actual amount	Estimated amount <sup>1</sup>	Actual as percentage of estimate	Estimated amount <sup>1</sup>	Actual as percentage of estimate
Premiums from enrollees	\$19,244	\$19,131	101	\$19,228	100
Government Contributions	36,988	36,955	100	39,755	93
Benefit Payments	63,491	64,723	98	65,644	97

<sup>1</sup>Under the intermediate assumptions.

Table II.C3 shows a comparison of the total assets of the fund and their distribution at the end of FY 1994 and 1995. The assets of the trust fund at the end of 1994 totaled \$20,919 million, consisting of \$21,489 million in the form of obligations of the U.S. Government, and an undisbursed balance of about -\$570 million. The assets of the trust fund at the end of 1995 totaled \$13,874 million, consisting of \$13,513 million in the form of obligations of the U.S. Government and an undisbursed balance of \$361 million. A comparison of assets of the trust fund with



## Summary of the Operations

liabilities for incurred but unpaid benefits (and related administrative expenses) is shown in section II.E.

**Table II.C3.—Assets of the SMI Trust Fund at the End of Fiscal Years 1994 and 1995<sup>1</sup>**

	September 30, 1994	September 30, 1995
Investments in public-debt obligations sold only to this fund (special issues):		
Certificates of indebtedness:	\$90,478,000.00	\$0.00
Bonds:		
6 1/4-percent, 1995-2008	4,056,180,000.00	2,904,900,000.00
7 1/4-percent, 1995-2009	2,135,822,000.00	1,900,261,000.00
7 3/8-percent, 1995-2007	2,036,049,000.00	1,664,579,000.00
8 1/8-percent, 1995-2008	3,265,239,000.00	2,128,336,000.00
8 3/8-percent, 2001	444,270,000.00	402,483,000.00
8 3/4-percent, 1995-2005	5,794,711,000.00	4,512,895,000.00
10 3/8-percent, 1995-2000	1,397,521,000.00	0.00
10 3/4-percent, 1995-98	633,111,000.00	0.00
13 1/4-percent, 1995-97	737,856,000.00	0.00
13 3/4-percent, 1995-99	897,447,000.00	0.00
Total investments in public-debt obligations	21,488,684,000.00	13,513,454,000.00
Undisbursed balance <sup>2</sup>	-570,163,213.43	361,019,774.64
Total assets	20,918,520,786.57	13,874,473,774.64

<sup>1</sup>The assets are carried at par value, which is the same as book value.

<sup>2</sup>Negative figure represented extension of credit against securities to be redeemed within the following few days.

New securities at a total par value of \$61,542 billion were acquired during the fiscal year through the investment of revenue and reinvestment of funds made available from the redemption of securities. The par value of securities redeemed during the year was \$69,517 billion. Included in these amounts is \$59,618 billion in certificates of indebtedness that were acquired, and \$59,709 billion in certificates of indebtedness that were redeemed, within the fiscal year. The net decrease in the par value of the investments held by the fund during FY 1995 amounted to \$7,975 million.

The effective annual rate of interest earned by the assets of the SMI trust fund for the 12 months ending on December 31, 1995 was 7.68 percent. Interest on special issues is paid semiannually on June 30 and December 31. The interest rate on special issues purchased by the trust fund in June 1995 was 6.5 percent, payable semiannually.

**D. EXPECTED OPERATIONS AND STATUS OF THE TRUST FUND**

Future operations of the trust fund are projected using the Trustees' economic and demographic assumptions, as detailed in the OASDI Trustees Report, as well as other assumptions unique to the SMI program. Section II.F presents an explanation of the effects of the Trustees' intermediate assumptions and the other assumptions unique to SMI on the estimates in this report. Although financing rates have been set only through December 31, 1996, it has been assumed that financing for future periods will be set according to the statutory provisions described in section II.B. In addition, benefit expenditure estimates assume current statutory provisions are maintained.

Table II.D1 shows the estimated operations of the SMI trust fund under the intermediate assumptions on a fiscal-year basis through 2005. Table II.D2 shows the corresponding development on a calendar-year basis. The level of the trust fund decreased in fiscal and calendar year 1995 for two reasons. First, the appropriation for Government contributions for FY 1995 was determined prior to promulgating the actuarial rates for 1995. The appropriation was based on projected 1995 actuarial rates with margins of contingency that would have reduced assets considerably more than the margins of contingency included in the promulgated rates. As a result, the FY 1995 appropriation was set \$6.7 billion too low, and the appropriation was exhausted in August 1995. Subsequent expenditures in FY 1995 were met in large part by the redemption of trust fund assets. Second, at the time the actuarial rates for 1995 were promulgated, it appeared that the assets were more than sufficient to cover the incurred costs of the program and to provide an appropriate contingency. Therefore the actuarial rates were set to reduce the assets. However, the actual expenditures were lower than those estimated at the time the financing was established for 1995, and, as a result, the assets were not reduced as much as expected when establishing the financing for 1995.

If the trust fund balance for FY 1995 was adjusted for this shortfall, the level of the trust fund would have still decreased but by not as much as expected. Normally this shortfall would have been made up through a special transfer to the fund, with accumulated interest, on December 31, 1995. However, due to the absence of funding on December 31, this transfer payment was delayed until March 1, 1996. If the transfer had been made on December 31, the transfer payment, including accumulated interest, would have been \$6.9 billion, and the trust fund balance for calendar year 1995 would have increased to \$20.0 billion.

## Expected Operations

The actuarial rates for calendar year 1996 were promulgated with specific margins to maintain the size of the contingency level of the fund as a percentage of program expenditures. Based on these actuarial rates and the above economic assumptions, the fund is estimated to increase to a level of \$24.8 billion by the end of calendar year 1996 and then increase to \$25.6 billion by the end of 1997.

**Table II.D1.—Operations of the SMI Trust Fund (Cash Basis) During Fiscal Years 1970-2005**

(In millions)

Fiscal year <sup>1</sup>	Income				Disbursements			Balance at end of year <sup>2</sup>
	Premium from enrollees	Government contributions <sup>3</sup>	Interest and other income <sup>3</sup>	Total income	Benefit payments	Administrative expenses	Total disbursements	
Historical Data:								
1970	\$936	\$928	\$12	\$1,876	\$1,979	\$217	\$2,196	\$57
1975	1,887	2,330	105	4,322	3,765	405	4,170	1,424
1980	2,928	6,932	415	10,275	10,144	593	10,737	4,532
1985	5,524	17,898	1,155	24,577	21,808	922	22,730	10,646
1986	5,699	18,076	1,228	25,003	25,169	1,049	26,218	9,432
1987	6,480	20,299	1,018	27,797	29,937	900	30,837	6,392
1988	8,756	25,418	828	35,002	33,682	1,265	34,947	6,447
1989	11,548 <sup>4</sup>	30,712	1,022 <sup>4</sup>	43,282 <sup>4</sup>	36,867	1,450 <sup>4</sup>	38,317 <sup>4</sup>	11,412 <sup>4</sup>
1990	11,494 <sup>4</sup>	33,210	1,434 <sup>4</sup>	46,138 <sup>4</sup>	41,498	1,524 <sup>4</sup>	43,022 <sup>4</sup>	14,527 <sup>4</sup>
1991	11,807	34,730	1,629	48,166	45,514	1,505	47,019	15,675
1992	12,748	38,684	1,717	53,149	48,627	1,661	50,288	18,535
1993	14,683	44,227	1,889	60,799	54,214 <sup>4</sup>	1,845	56,059	23,276
1994	16,895	38,355	2,118	57,368	58,006	1,718	59,724	20,919
1995	19,244	36,988	1,937	58,169	63,491	1,722	65,213	13,874
Intermediate Estimates:								
1996	18,743	61,319	1,793	81,855	69,378	1,654	71,032	24,697
1997	19,090	59,529	2,181	80,800	77,277	1,718	78,995	26,502
1998	20,811	64,892	2,259	87,962	85,456	1,789	87,245	27,219
1999	21,996	72,245	2,258	96,499	93,856	1,860	95,716	28,002
2000	22,958	80,905	2,242	106,105	103,156	1,937	105,093	29,014
2001	23,983	92,225	2,270	118,478	113,924	2,019	115,943	31,549
2002	25,071	103,896	2,412	131,379	125,969	2,105	128,074	34,854
2003	26,275	116,815	2,550	145,640	139,647	2,199	141,846	38,588
2004	27,616	131,482	2,803	161,901	155,237	2,303	157,540	43,049
2005	29,068	148,183	3,045	180,296	172,949	2,415	175,364	47,981

<sup>1</sup>For 1970 and 1975, fiscal years cover the interval from July 1 through June 30; fiscal years 1980-2005 cover the interval from October 1 through September 30.

<sup>2</sup>General fund matching payments, plus certain interest-adjustment items.

<sup>3</sup>Other income includes recoveries of amounts reimbursed from the trust fund which are not obligations of the trust fund and other miscellaneous income.

<sup>4</sup>The financial status of the program depends on both the total net assets and the liabilities of the program (see table II.E2).

<sup>5</sup>Includes the impact of the Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360).

<sup>6</sup>Includes the impact of the transfer to the HI trust fund of the SMI catastrophic coverage reserve fund on March 31, 1993 as specified in Public Law 102-394. Actual benefit payments for 1993 were \$52,409 million and the amount transferred was \$1,805 million.

## Actuarial Analysis

**Table II.D2.—Operations of the SMI Trust Fund (Cash Basis) During Calendar Years 1970-2005**

(In millions)

Calendar year	Income				Disbursements			Balance at end of year <sup>2</sup>
	Premium from enrollees	Government contributions <sup>1</sup>	Interest and other income <sup>2</sup>	Total income	Benefit payments	Adminis- trative expenses	Total disburse- ments	
Historical Data:								
1970	\$1,096	\$1,093	\$12	\$2,201	\$1,975	\$237	\$2,212	\$188
1975	1,918	2,648	107	4,673	4,273	462	4,735	1,444
1980	3,011	7,455	408	10,874	10,635	610	11,245	4,530
1985	5,613	18,250	1,243	25,106	22,947	933	23,880	10,924
1986	5,722	17,802	1,141	24,665	26,239	1,060	27,299	8,291
1987	7,409 <sup>3</sup>	23,560 <sup>4</sup>	875	31,844	30,820	920	31,740	8,394
1988	8,761 <sup>4</sup>	26,203 <sup>4</sup>	861	35,825	33,970	1,260	35,230	8,990
1989	12,263 <sup>4</sup>	30,852	1,234 <sup>5</sup>	44,349 <sup>5</sup>	38,294	1,489 <sup>5</sup>	39,783 <sup>5</sup>	13,562 <sup>5</sup>
1990	11,320	33,035	1,558	45,913	42,468	1,519	43,987	15,485 <sup>6</sup>
1991	11,934	37,602	1,688	51,224	47,336	1,541	48,877	17,828
1992	14,077 <sup>6</sup>	41,359 <sup>6</sup>	1,801	57,237	49,260	1,570	50,830	24,235
1993	14,193 <sup>6</sup>	41,465 <sup>6</sup>	2,021	57,679	55,784 <sup>7</sup>	2,000	57,784	24,131
1994	17,386	36,203	2,018	55,607	56,618	1,699	60,317	19,422
1995	19,717	39,007	1,582	60,306	64,972	1,627	66,599	13,130
Intermediate Estimates								
1996	18,422	64,146	2,069	84,637	71,332	1,670	73,002	24,765
1997	19,312	60,313	2,236	81,861	79,318	1,735	81,053	25,573
1998	21,310	66,418	2,256	89,986	87,513	1,808	89,321	26,238
1999	22,224	74,188	2,249	98,661	96,091	1,878	97,969	26,930
2000	23,203	83,144	2,247	108,594	105,781	1,957	107,738	27,786
2001	24,243	95,252	2,331	121,826	116,839	2,039	118,878	30,734
2002	25,346	106,777	2,498	134,621	129,277	2,127	131,404	33,951
2003	26,584	120,161	2,692	149,437	143,425	2,223	145,648	37,740
2004	27,960	135,255	2,920	166,135	159,520	2,329	161,849	42,026
2005	29,437	152,492	3,179	185,108	177,841	2,443	180,284	46,850

<sup>1</sup>General fund matching payments, plus certain interest adjustment items.

<sup>2</sup>Other income includes recoveries of amounts reimbursed from the trust fund which are not obligations of the trust fund and other miscellaneous income.

<sup>3</sup>The financial status of the program depends on both the total net assets and the liabilities of the program (see table II.E2).

<sup>4</sup>Section 708 of the Social Security Act modifies the provisions for the delivery of Social Security benefit checks when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Delivery of benefit checks normally due January, 1988 occurred on December 31, 1987. Consequently, the SMI premiums withheld from the checks (\$692 million) and the general revenue contributions (\$2,178 million) were added to the SMI trust fund on December 31, 1987. These amounts are excluded from the premium income and general revenue income for 1988.

<sup>5</sup>Includes the impact of the Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360).

<sup>6</sup>Delivery of benefit checks normally due January, 1993 occurred on December 31, 1992. Consequently, the SMI premiums withheld from the checks (\$1,069 million) and the general revenue contributions (\$3,175 million) were added to the SMI trust fund on December 31, 1992. These amounts are excluded from the premium income and general revenue income for 1993 (refer to footnote 4).

<sup>7</sup>Includes the impact of the transfer to the HI trust fund of the SMI catastrophic coverage reserve fund on March 31, 1993 as specified in Public Law 102-394. Actual benefit payments for 1993 were \$53,979 million and the amount transferred was \$1,805 million.

Table II.D3 shows the calendar-year average increase in aggregate and per capita benefit payments on a cash basis under the intermediate

### Expected Operations

assumptions through 2005. To reflect the size of the program relative to the economy as a whole, table II.D3 also shows SMI benefit expenditures on a cash basis as a percent of GDP. During 1995, the program grew 10.8 percent on an aggregate basis, grew 9.2 percent on a per capita basis, and increased from 0.85 to 0.90 percent of GDP. For 1996, the program is expected to grow 9.8 percent on an aggregate basis, to grow 8.3 percent on a per capita basis, and to increase from 0.90 to 0.94 percent of GDP.

**Table II.D3.—Growth in Total Benefits Under the SMI Program (Cash Basis) Through December 31, 2005**

Calendar year	Aggregate benefits (millions)	Percent change	Per capita benefits	Percent change	SMI benefits as a percent of GDP
<b>Historical Data</b>					
1967	\$1.197	—	\$66.97	—	0.14
1968	1.518	26.8	82.27	22.8	0.17
1969	1.865	22.9	97.86	19.0	0.19
1970	1.975	5.9	101.30	3.5	0.19
1971	2.117	7.2	106.68	5.3	0.19
1972	2.325	9.8	114.91	7.7	0.19
1973	2.526	8.6	122.02	6.2	0.18
1974	3.318	31.4	144.47	18.4	0.22
1975	4.273	28.8	179.96	24.6	0.26
1976	5.080	18.9	207.39	15.2	0.28
1977	6.038	18.9	239.27	15.4	0.30
1978	7.252	20.1	279.58	16.8	0.32
1979	8.708	20.1	326.86	16.9	0.34
1980	10.635	22.1	389.87	19.3	0.38
1981	13.113	23.3	471.15	20.8	0.42
1982	15.455	17.9	545.55	15.8	0.48
1983	18.106	17.2	627.79	15.1	0.52
1984	19.661	8.6	670.77	6.8	0.50
1985	22.947	16.7	768.25	14.5	0.55
1986	26.239	14.3	861.37	12.1	0.59
1987	30.820	17.5	992.69	15.2	0.66
1988	33.970	10.2	1,076.64	8.5	0.67
1989	38.294	12.7	1,195.42	11.0	0.70
1990	42.468	10.9	1,305.14	9.2	0.74
1991	47.336	11.5	1,426.90	9.3	0.80
1992	49.260	4.1	1,454.81	2.0	0.79
1993	53.979	9.6	1,562.66	7.4	0.82
1994	58.618	8.6	1,670.03	6.9	0.85
1995	64.972	10.8	1,824.03	9.2	0.90
<b>Intermediate Estimates:</b>					
1996	71.332	9.8	1,974.81	8.3	0.94
1997	79.318	11.2	2,168.64	9.8	1.00
1998	87.513	10.3	2,365.47	9.1	1.05
1999	96.091	9.8	2,564.32	8.6	1.09
2000	105.781	10.1	2,795.48	8.8	1.15
2001	116.839	10.5	3,053.66	9.2	1.20
2002	129.277	10.6	3,341.87	9.4	1.26
2003	143.425	10.9	3,664.41	9.7	1.32
2004	159.520	11.2	4,025.64	9.9	1.39
2005	177.841	11.5	4,429.53	10.0	1.46

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Since future economic, demographic, and health care usage and cost experience may vary considerably from the intermediate assumptions on which the preceding cost estimates were based, estimates have also been prepared on the basis of two additional alternative sets of assumptions: low cost and high cost. The estimated operations of the SMI trust fund during 1995-2005 are summarized in table II.D4 for all three alternatives. The assumptions underlying the intermediate assumptions are presented in substantial detail in section II.F. The assumptions used in preparing estimates under the low cost and high cost alternatives are also summarized in that section.

**Table II.D4.—Estimated Operations of the SMI Trust Fund (Cash Basis) Under Alternative Sets of Assumptions, Calendar Years 1995-2005**

(In billions)

Calendar year	Premiums from enrollees	Other income	Total income	Total disbursements	Balance in fund at end of year
<b>Intermediate</b>					
1995	\$19.7	\$40.6	\$60.3	\$66.5	\$13.1
1996	18.4	66.2	84.6	73.0	24.8
1997	19.3	62.5	81.9	81.1	25.6
1998	21.3	68.7	90.0	89.3	26.2
1999	22.2	76.4	98.7	98.0	26.9
2000	23.2	85.4	108.6	107.7	27.8
2001	24.2	97.6	121.8	118.9	30.7
2002	25.3	109.3	134.6	131.4	34.0
2003	26.6	122.9	149.4	145.6	37.7
2004	28.0	138.2	166.1	161.8	42.0
2005	29.4	155.7	185.1	180.3	46.9
<b>Low Cost:</b>					
1995	19.7	40.6	60.3	66.5	13.1
1996	18.4	66.2	84.6	72.4	25.4
1997	18.8	61.1	80.0	79.2	26.2
1998	20.6	66.3	86.8	86.2	26.8
1999	21.4	72.7	94.1	93.4	27.4
2000	22.3	80.0	102.3	101.5	28.2
2001	23.2	90.2	113.4	110.4	31.1
2002	24.1	99.0	123.1	119.9	34.4
2003	25.2	108.6	133.8	130.1	38.0
2004	26.2	119.2	145.4	141.3	42.1
2005	27.4	130.9	158.3	153.6	46.8
<b>High Cost:</b>					
1995	19.7	40.6	60.3	66.5	13.1
1996	18.4	66.2	84.6	73.9	23.8
1997	19.9	64.2	84.1	83.3	24.7
1998	22.0	70.6	92.6	91.9	25.3
1999	22.9	79.8	102.8	102.0	26.1
2000	24.6	91.1	115.7	114.8	27.0
2001	26.1	105.4	131.6	128.5	30.0
2002	27.6	120.2	147.9	144.6	33.4

*Expected Operations*

**Table II.D4.—Estimated Operations of the SMI Trust Fund (Cash Basis) Under Alternative Sets of Assumptions, Calendar Years 1995-2005**

[In billions]

Calendar year	Premiums from enrollees	Other income <sup>1</sup>	Total income	Total disbursements	Balance in fund at end of year
2003	29.4	139.5	168.9	165.0	37.3
2004	31.2	162.0	193.2	188.8	41.8
2005	33.2	187.5	220.7	215.6	46.9

<sup>1</sup>Other income contains government contributions and interest

Note: Totals do not necessarily equal the sum of rounded components

The three sets of assumptions were selected in order to indicate the general range in which the cost of the program reasonably might be expected to fall. The low and high cost alternatives provide for a fairly wide range of possible experience. Actual experience is expected to fall within the range, but no assurance can be given that this will be the case, particularly in light of the wide variations in experience that have occurred since the beginning of the program.

SMI expenditures are estimated to grow faster than the GDP under all three alternatives. The most rapid growth would occur under the high cost alternative and the least rapid under the low cost alternative. The alternative projections shown in table II.D4 illustrate three important aspects of the financial operations of the SMI trust fund:

- First, despite the widely differing assumptions underlying the three alternatives, the balance between SMI income and disbursements remains relatively stable. Under the low cost assumptions, for example, by 2005 both income and disbursements would be about 15 percent lower than projected under the intermediate assumptions. Similarly, the corresponding amounts under the high cost assumptions would both be about 19 percent higher than the intermediate estimates.

This result occurs because the premiums and general revenue contributions underlying the financing for the SMI program are reestablished annually, to match each year's anticipated incurred benefit costs and other expenditures. Thus, program income will automatically track program expenditures fairly closely regardless of the specific economic and other conditions.

### *Actuarial Analysis*

- Second, as a result of the close matching of income and disbursements described above, projected trust fund assets show relatively little variation under the three sets of assumptions. Consequently, the annual adjustment of premiums and general revenue contributions permits the maintenance of a trust fund balance that, while relatively small, is sufficient to guard against chance fluctuations.
- Third, under the alternative sets of assumptions, the proportion of total income met from premiums is not constant. By 2005, for example, premium income would represent 17.3 percent of total income under the low cost assumptions, compared to 15.0 percent based on the high cost assumptions. Under present law, after 1998 premium increases are limited to the cost-of-living adjustment (COLA) for monthly Social Security benefits.<sup>1</sup> When SMI costs increase more rapidly than the general CPI underlying the Social Security COLA, as has generally occurred, premium income will represent a smaller share of total income.

Table II.D5 shows the estimated incurred disbursements of the SMI program under the intermediate assumptions expressed as a percentage of GDP, for selected years over the calendar-year period 1995-2070. These estimated incurred disbursements are for benefit payments and administrative expenses combined, unlike the values in table II.D3 which only express benefit payments on a cash basis as a percentage of GDP. The 75-year projection period fully allows for the presentation of future trends that reasonably may be expected to occur, such as the impact of a large increase in enrollees after the turn of the century. This increase will occur because the relatively large number of persons born during the period between the end of World War II and the mid-1960's (known as the "baby boom") will reach retirement age and begin to receive benefits.

Increases in the costs per enrollee during the initial 25-year period are assumed to decline gradually in the last 12 years of that period to the same growth rate as GDP per capita and then to continue at the same rate as GDP per capita in the next 50 years. Therefore, changes in the last 50 years of the period are attributable only to demographic changes

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<sup>1</sup>Originally, 50 percent of the cost of the SMI program was to be met by premium payments and the other 50 percent by general revenue. Over time, the proportion met by premiums dropped to about 25 percent as a result of the increase limitations described in section II.B. Since then, the Congress has acted from time to time to prevent the share of cost met through premiums from dropping below 25 percent.



in the population. Given the historical experience of SMI costs per enrollee increasing faster than GDP per capita, this assumption may be considered optimistic. However, assuming a continuation of the historical trend for another 75 years would result in an SMI program so large as a percent of GDP that it would be implausible given other demands on those resources. Thus this projection can be viewed as a middle ground between assuming the continuation of historical trends and assuming that there will be moderation of growth in the health care sector of the national economy and in particular in the Medicare program. Based on these assumptions, incurred SMI disbursements as a percentage of GDP would increase rapidly from 0.92 percent in 1995 to 3.61 percent in 2035, decrease slightly to 3.51 percent in 2050, and then would increase to 3.79 percent in 2070.

Table II.D5.—SMI Disbursements (Incurred Basis) as a Percent of the Gross Domestic Product<sup>1</sup>

Calendar year	SMI Disbursements as a percent of GDP
1995	0.92
1996	0.96
2000	1.17
2005	1.49
2010	1.97
2015	2.47
2020	2.82
2025	3.17
2030	3.47
2035	3.61
2040	3.61
2045	3.55
2050	3.51
2055	3.54
2060	3.64
2065	3.74
2070	3.79

<sup>1</sup>Disbursements are the sum of benefit payments and administrative expenses.

## E. ACTUARIAL STATUS OF THE TRUST FUND

### 1. Actuarial Status of the Supplementary Medical Insurance Program

The traditional concept of financial adequacy, as it applies to the SMI program, is closely related to the concept as it applies to many private group insurance plans. The SMI program is somewhat similar to yearly renewable term insurance, with financing from premium income paid by the enrollees and from income contributed from general revenue by the

### *Actuarial Analysis*

federal government. Consequently, the income to the program during a 12-month period for which financing is being established should be sufficient to cover the costs of services expected to be rendered during that period (including associated administrative costs), even though payment for some of these services will not be made until after the close of the period. The portion of income required to cover those benefits not paid until after the close of the year is added to the trust fund. Thus, the assets in the trust fund at any time should be no less than the costs of the benefits and the administrative expenses incurred but not yet paid.

The law requires the Secretary of HHS to establish income for a calendar year on the basis of incurred costs (including associated administrative costs) for that year. Financing on an incurred basis means that income should be sufficient to cover the cost of services rendered during the period. However, since the income per enrollee (premium plus Government contribution) is established prospectively, it is subject to projection error. Additionally, legislation enacted after the financing has been established but effective for the period for which financing has been set may affect program costs. As a result, the income to the program may not be equal to incurred costs; therefore, trust fund assets should be maintained at a level which is adequate to cover not only the value of incurred but unpaid expenses but also a reasonable degree of variation between actual and projected costs (in case actual costs exceed projected).

The actuarial status or financial adequacy of the SMI program is traditionally evaluated over the period for which the enrollee premium rates and level of general revenue financing have been established. The primary tests are that: (1) the assets and income for years for which financing has been established should be sufficient to meet the projected benefits and associated administrative expenses incurred for that period and (2) the assets should be sufficient to cover projected liabilities as of the end of the period that have not yet been paid. If these adequacy tests are not met, the program can still continue to operate if the trust fund remains at a level adequate to permit the payment of claims as presented. However, to protect against the possibility that costs under the program will be higher than assumed, assets should be sufficient to include contingency levels to cover a reasonable degree of variation between actual and projected costs.

The adequacy of contingency reserves for accommodating higher-than-expected costs is measured by the excess of assets over liabilities. An appropriate target level for this excess depends on numerous factors.

The most important of these factors are: (1) the difference in prior years between the actual performance of the program and the estimates made at the time financing was established and (2) the expected relationship between incurred and cash expenditures. Ongoing analysis is made of the former as trends in the differences vary over time.

## **2. Incurred Experience of the Supplementary Medical Insurance Program**

The tests of financial adequacy for the SMI program noted above rely on the incurred experience of the program. Cash disbursements for benefits and administrative expenses by themselves are misleading, due to the relatively large liabilities outstanding at any time for benefits and processing costs. Outstanding liabilities result from the lag between the time that services are performed and the time that payments for them are made.

The experience of the program is substantially more difficult to determine on an incurred basis than on a cash basis. Payment for some services is reported only on a cash basis, and the incurred experience must be inferred from the cash payment information. For recent time periods, the tabulations of bills are incomplete due to normal processing delays. Finally, since bills are tabulated only for a sample of beneficiaries, the data is subject to biases and random fluctuations inherent in the sampling process.

Table II.E1 shows the estimated transactions of the trust fund on an incurred basis. For the reasons stated above, the incurred experience must be viewed as an estimate even for historical years. Various tests, however, such as the comparison to cash outlay data, assure that the estimates are reasonably close.

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**Table II.E1.—Estimated Income and Disbursements Incurred Under the SMI Program for Financing Periods Through December 31, 1996**

(In millions)

Financing period	Income				Disbursements			Net operations in year
	Premium from enrollees	Government contributions	Interest and other income	Total income	Benefit payments	Administrative expenses	Total disbursements	
Historical Data								
12-month period ending June 30.								
1970	\$936	\$936	\$12	\$1,884	\$1,928	\$213	\$2,141	-\$257
1975	1,887	2,396	105	4,388	3,957	438	4,395	-7
1980	2,823	6,627	421	9,871	9,840	645	10,485	-614
Calendar year								
1985	5,613	18,243	1,248	25,104	22,750	986	23,736	1,368
1986	5,722	17,802	1,141	24,665	26,638	1,000	27,638	-2,973
1987	6,717	21,377	880	28,974	30,778	1,036	31,814	-2,840
1988	9,453	28,342	903	38,698	34,463	1,343	35,806	2,892
1989	12,263	30,826	1,257	44,346	38,232	1,386	39,618	4,728
1990	11,320	33,035	1,558	45,913	42,559	1,541	44,100	1,813
1991	11,934	37,558	1,732	51,224	46,396	1,572	47,968	3,256
1992	12,988	38,158	1,827	52,973	49,543	1,690	51,233	1,740
1993	15,282	44,640	2,021	61,943	55,353 <sup>2</sup>	1,713	57,066 <sup>2</sup>	4,877
1994	17,386	36,203	2,018	55,607	58,841	1,623	60,464	-4,857
1995	19,717	45,743	1,739	67,199	65,386	1,607	66,993	206
Intermediate Estimates:								
1996	18,422	57,179	2,143	77,744	72,535	1,670	74,205	3,539

<sup>1</sup>Includes the impact of the Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360).

<sup>2</sup>Includes the impact of the transfer to the HI trust fund of the SMI catastrophic coverage reserve fund on March 31, 1993 as specified in Public Law 102-394. Estimated incurred payments for 1993 are \$53,548 million and the amount transferred was \$1,805 million.

### 3. Accumulated Excess of Assets Over Liabilities

The liability outstanding at any time, for the cost of services performed for which no payment has been made, is referred to as "benefits incurred but unpaid." Estimates of the amount of benefits incurred but unpaid as of the end of each financing period, and of the administrative expenses related to processing these benefits, appear in table II.E2. In some years, program assets have not been as large as liabilities. Nonetheless, the fund has remained positive, allowing claims to be paid.

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**Table II.E2.—Summary of Estimated Assets and Liabilities of the SMI Program as of the End of the Financing Period, for Periods through December 31, 1996**

[Dollar amounts in millions]

	Balance in trust fund	Government contributions due but unpaid	Total assets	Benefits incurred but unpaid	Administrative costs incurred but unpaid	Total liabilities	Excess of assets over liabilities	Ratio <sup>1</sup>
<b>Historical Data:</b>								
<b>As of June 30.</b>								
1970	\$57	\$15	\$72	\$567	\$0	\$567	-495	-0.21
1975	1,424	67	1,491	1,257	14	1,271	220	0.04
1980	4,657	0	4,657	2,621	188	2,809	1,848	0.15
<b>As of December 31.</b>								
1985	10,924	0	10,924	3,142	-38	3,104	7,820	0.28
1986	8,291	0	8,291	3,541	-98	3,443	4,848	0.15
1987	8,394	0	8,394	3,499	17	6,386	2,008	0.06
1988	8,990	3	8,993	3,992	100	4,092	4,901	0.12
1989	13,556	0	13,556	3,930	-3	3,927	9,629	0.22
1990	15,482	0	15,482	4,021	19	4,040	11,442	0.24
1991	17,828	0	17,828	3,081	50	3,131	14,697	0.29
1992	24,236	0	24,236	3,364	170	7,798	16,438	0.30
1993	24,131	0	24,131	2,933	-117	2,816	21,315	0.35
1994	19,422	0	19,422	3,156	-193	2,963	16,459	0.25
1995	13,130	6,893	20,023	3,571	-213	3,358	16,665	0.23
<b>Intermediate Estimates:</b>								
1996	24,765	0	24,765	4,774	-213	4,561	20,104	0.25

<sup>1</sup>Ratio of the excess of assets over liabilities to the following year's total incurred expenditures

<sup>2</sup>Section 708 of the Social Security Act modifies the provisions for the delivery of Social Security benefit checks when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Delivery of benefit checks normally due January, 1988 occurred on December 31, 1987. Consequently, the SMI premiums withheld from the checks (\$692 million) and the general revenue matching contributions (\$2.178 million) were added to the SMI trust fund on December 31, 1987 and were included in the liabilities.

<sup>3</sup>The 1989 transactions of Medicare Catastrophic Coverage Account are included in the assets and liabilities of the trust fund.

<sup>4</sup>Delivery of benefit checks normally due January, 1993 occurred on December 31, 1992. Consequently, the SMI premiums withheld from the checks (\$1,089 million) and the general revenue matching contributions (\$3.175 million) were added to the SMI trust fund on December 31, 1992 and were included in the liabilities (see footnote 2).

<sup>5</sup>This amount includes both the principal of \$6.736 million and the accumulated interest through December 31, 1995 for the shortfall in the FY 1995 appropriation for Government contributions. Normally, this transfer would have been made on December 31, 1995 and, therefore, would have been reflected in the trust fund balance. However, due to absence of funding, the transfer of the principal and the appropriate interest was made on March 1, 1996. See section II.D for details.

Program financing has been established through December 31, 1996. The financing for calendar year 1996 was designed with specific margins to maintain the excess of assets over liabilities as a percent of incurred expenditures for the following year. This was accomplished by including specific margins to slightly increase the excess of assets less liabilities, as is explained in section III.B. As a result, the calendar year 1996 incurred income is expected to exceed the incurred disbursements by

#### *Actuarial Analysis*

\$3,539 million, as shown in table II.E1, and the excess of assets over liabilities is expected to increase from \$16,665 million at the end of December 1995 to \$20,204 million at the end of December 1996, under the intermediate assumptions, as shown in table II.E2. This excess as a percent of incurred expenditures for the following year is expected to increase from 23 percent as of December 31, 1995 to 25 percent as of December 31, 1996.

#### **4. Sensitivity Testing**

Some of the assumptions underlying the estimates presented in this report are highly uncertain, and variations in these assumptions would have a substantial impact on estimated expenditures. Since the financing rates are set prospectively, the actuarial status of the SMI program could be affected by variations in these assumptions. In order to test the status of the program under varying assumptions, a lower growth range projection and an upper growth range projection were prepared by varying these key assumptions through the period for which the financing has been set. The lower and upper growth range alternative sets of assumptions are intended to reflect growth rates for the various components of program costs which are more favorable and adverse, respectively, than those of the intermediate assumptions. These two alternative sets of assumptions are reasonable in light of the nature and historical experience of the program. As such, they provide a range of financial outcomes within which the actual experience of the program might reasonably be expected to fall. The values for the lower and upper growth range assumptions were determined from a study on the average historical variation in the respective increase factors.

This sensitivity analysis differs from the low cost and high cost analysis discussed in the section II.D. This analysis examines the variation in the projection factors through the period for which the financing has been established (1996 for this report). The low cost and high cost analysis begins the variation in program growth within the year for which financing has been established (1996) and continues throughout the projection period.

Table II.E3 indicates that, under the lower growth range assumptions, trust fund assets would exceed liabilities at the end of December 1996 by a wide margin, equivalent to 32.5 percent of the following year's incurred expenditures. If these lower growth range assumptions were actually to materialize, then subsequent financing rates would be adjusted downward in order to lower the excess of assets over liabilities to an appropriate level to maintain the adequacy of the trust fund.

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Under the upper growth range assumptions, trust fund assets would still exceed liabilities by the end of December 1996, dropping to a level of 17.5 percent of the following year's incurred expenditures. Therefore, even if these upper growth range growth rates were to occur, assets would still be sufficient to cover outstanding liabilities. Figure II.E1 shows this ratio for historical years and for projected years under the intermediate assumptions, as well as the lower growth range (optimistic) and the upper growth range (pessimistic) cost sensitivity scenarios.

**Table II.E3.—Actuarial Status of the SMI Trust Fund Under Three Alternative Sets of Assumptions for Financing Periods Through December 31, 1996**

	Intermediate projection			Lower range projection			Upper range projection		
	12 Month period ending June 30,			12 Month period ending June 30,			12 Month period ending June 30,		
	1995	1996	1997	1995	1996	1997	1995	1996	1997
<b>Projection factors (in percent):</b>									
Physician fees <sup>1</sup>									
Aged	4.4	2.1	0.5	4.3	1.9	-0.7	4.5	2.4	1.7
Disabled	4.4	2.1	0.5	4.3	1.9	-0.7	4.5	2.4	1.7
Utilization of physician services <sup>2</sup>									
Aged	2.7	4.5	6.2	1.2	2.7	4.0	4.2	6.3	8.4
Disabled	5.2	3.3	5.0	4.3	0.3	2.0	6.0	6.2	8.0
Outpatient hospital services per enrollee									
Aged	11.8	12.5	9.8	6.3	8.1	5.3	15.4	16.9	14.4
Disabled	15.9	13.0	13.7	12.5	7.6	8.1	19.2	18.3	19.2
<b>Actuarial status (in millions):</b>									
	As of December 31,			As of December 31,			As of December 31,		
	1994	1995	1996	1994	1995	1996	1994	1995	1996
Assets	\$19,422	\$20,023	\$24,765	\$19,422	\$20,023	\$28,352	\$19,422	\$20,023	\$20,927
Liabilities	2,963	3,358	4,561	2,449	1,056	2,103	3,478	5,731	7,102
Assets less liabilities	\$16,459	\$16,665	\$20,204	\$16,973	\$18,967	\$26,249	\$15,944	\$14,292	\$13,825
Ratio of assets less liabilities to expenditures (in percent) <sup>3</sup>	24.6	22.5	24.7	26.0	26.9	34.8	23.2	18.3	15.5

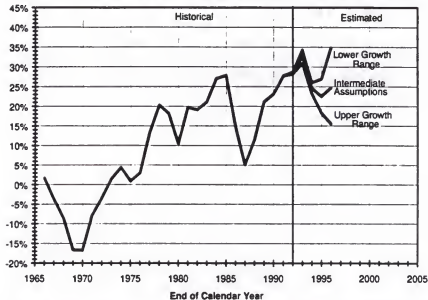
<sup>1</sup>As recognized for payment under the program.

<sup>2</sup>Increase in the number of services received per enrollee and greater relative use of more expensive services.

<sup>3</sup>Ratio of assets less liabilities at the end of the year to the total incurred expenditures during the following year, expressed as a percent.



Figure II.E1.—Actuarial Status of the SMI Trust Fund Through Calendar Year 1996



Note: The actuarial status of the SMI trust fund is measured by the ratio of the end of year surplus or deficit to the following year incurred expenditures.

#### **F. ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS FOR COST ESTIMATES FOR THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM**

##### **1. Estimates under the Intermediate Assumptions for Aged and Disabled Enrollees**

###### **a. Introduction**

Estimates under the intermediate assumptions for aged and disabled enrollees—excluding disabled persons with end-stage renal disease (ESRD)—are prepared by calculating allowed charges incurred per enrollee in a recent year (the 12-month period ending June 30, 1994, for this report) for each category of enrollees and projecting these charges through the estimating period. The per enrollee charges are then converted to reimbursement amounts by subtracting the per enrollee values of the deductible and coinsurance. Aggregate reimbursement amounts are calculated by multiplying the per enrollee reimbursement amounts by the projected enrollment. In order to estimate cash

### *Actuarial Analysis*

disbursements, an allowance is made for the delay between receipt of service and payment therefor.

Disabled persons with ESRD have per enrollee costs which are higher and quite different in nature from those of most other disabled persons. Hence, program costs for them have been excluded from the analysis in this section and are included in a later section.

#### ***b. Establishing a Projection Base***

##### **(1) Physician Services**

Reimbursement amounts for physician services (and smaller amounts for other services such as laboratory tests, durable medical equipment (DME) and supplies) are paid through organizations acting for HCFA, referred to as "carriers." The carriers determine whether billed services are covered under the program and determine the allowed charges for the services. A record of the amount reimbursed after reduction for coinsurance and the deductible is transmitted to the central office.

A sample of records is drawn for 0.1 percent of aged beneficiaries and 5.0 percent of disabled beneficiaries tabulated by date of service, thus providing a data base which is constructed on an incurred basis. Certain minor adjustments are made to the tabulated sample data to correct for biases and random fluctuations inherent in the sampling process. Having the data on an incurred basis is necessary to meet the statutory requirement that the program be financed on this basis.

As a check on the validity of the projection base, incurred reimbursement amounts are compared with cash expenditures reported by the carriers through an independent reporting system. In a program with continuously increasing incurred reimbursement amounts, cash payments are expected to be slightly lower than incurred expenses (except in the first year of coverage of a service or group of beneficiaries, when the difference should be substantial). These differences between cash and incurred reimbursement amounts occur because of the lag between receipt of services and payment therefor.

##### **(2) Institutional and Other Services**

Reimbursement amounts for institutional services under the SMI program are paid by the same fiscal intermediaries that pay for HI services. The principal institutional services covered under the SMI program are outpatient hospital care services.

Reimbursements for institutional services occur in two stages. First, provider bills are submitted to the intermediaries, and interim payments are made on the basis of these bills. The second stage occurs at the close of a provider's accounting period, when a cost report is submitted, and lump-sum payments or recoveries are made to correct for the difference between interim payments and final settlement amounts for providing covered services (net of coinsurance and deductible amounts). Tabulations of a sample of the provider bills are prepared by date of service, and the lump-sum settlements, which are reported on a cash basis, are adjusted, using approximations, to allocate them to the time of service.

Group practice prepayment plans, which are not reimbursed through carriers, are reimbursed directly by HCFA on a reasonable cost or on a capitation basis. Comprehensive data on such direct reimbursements are available on a cash basis. Certain approximations must be made to allocate expenses to the period when services were rendered.

### (3) Summary of Historical Data

Table II.F1 summarizes the incurred reimbursement amounts per enrollee for the various services for each of the 12-month periods ending June 30, through 1994. Also shown are average enrollment figures for these years. In order to analyze the historical trends in prices and use of services, these reimbursement amounts are converted to the allowed charges or reasonable costs on which reimbursement was based. This process is necessary largely because the fixed deductible becomes a smaller percentage of charges each year and thus causes reimbursement to rise faster than charges or costs. Table II.F2 shows the incurred charges or costs per enrollee corresponding to the reimbursement values shown in table II.F1.

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Table II.F1.—Incurred Reimbursement Amounts Per Enrollee: Historical Data

Year ending June 30.	Average enrollment (millions)	All services	Physician	Out-patient hospital	Home health agency <sup>1</sup>	GPPP <sup>2</sup>	Independent lab
Aged:							
1970	19.312	\$99.90	\$90.02	\$5.91	\$1.99	\$1.50	\$0.48
1975	21.504	161.29	136.28	16.47	3.83	3.07	1.64
1980	24.287	343.55	277.24	47.62	7.58	7.05	4.06
1985	26.914	686.30	538.90	111.70	1.05	19.52	15.13
1986	27.453	771.84	583.88	133.84	1.19	31.70	21.23
1987	28.013	915.79	681.41	164.70	0.98	43.13	25.57
1988	28.497	1,009.81	728.87	187.08	1.54	62.26	30.06
1989	28.936	1,114.53	795.94	207.64	1.53	74.46	34.96
1990	29.380	1,210.96	863.01	214.65	2.91	88.48	41.91
1991	29.865	1,338.34	935.23	247.62	2.45	103.84	49.20
1992	30.384	1,383.92	938.67	269.93	2.10	118.34	54.88
1993	30.889	1,452.58	950.89	303.87	3.44	137.68	56.70
1994	31.250	1,551.37	1,007.06	325.27	3.56	159.00	56.48
Disabled (excluding ESRD):							
1975	1.817	150.98	125.63	18.84	3.58	1.87	1.06
1980	2.646	363.79	287.98	61.61	6.08	4.30	3.82
1985	2.595	706.77	553.47	130.37	0.00	9.26	13.67
1986	2.632	774.22	593.65	148.76	0.00	12.77	18.04
1987	2.681	859.93	657.08	164.13	0.00	16.39	22.33
1988	2.728	927.02	684.87	195.65	0.00	22.18	24.32
1989	2.762	999.89	744.96	201.73	0.00	26.15	27.05
1990	2.804	1,047.77	766.78	219.99	0.00	27.34	33.66
1991	2.867	1,141.61	818.25	252.34	0.00	30.91	40.11
1992	3.013	1,187.11	814.85	293.58	0.00	33.86	44.82
1993	3.204	1,270.58	842.35	341.71	0.00	39.00	47.52
1994	3.455	1,338.08	890.58	358.12	0.00	39.69	49.69

<sup>1</sup>Since July 1, 1981, home health agency services have been almost exclusively provided by the Medicare HI program. However, for those SMI enrollees not entitled to HI, the coverage of these services is provided by the SMI program. Since all SMI disabled enrollees are entitled to HI, their coverage of these services is provided by the HI program.

<sup>2</sup>Group practice prepayment plan.

Table II.F2.—Incurred Charges or Costs Per Enrollee: Historical Data

Year ending June 30.	Average enrollment (millions)	All services	Physician	Out-patient hospital	Home health agency <sup>1</sup>	GPPP <sup>2</sup>	Independent lab
Aged:							
1970	19.312	\$153.63	\$137.87	\$9.43	\$3.17	\$2.40	\$0.76
1975	21.504	237.88	201.04	25.03	4.66	2.49	5.65
1980	24.287	466.42	376.29	66.24	8.44	9.80	15.76
1985	26.914	911.56	718.35	150.16	1.05	26.24	22.10
1986	27.453	1,018.84	774.28	178.90	1.19	42.37	26.46
1987	28.013	1,198.71	896.03	218.12	0.98	57.12	31.53
1988	28.497	1,325.49	961.14	248.55	1.55	82.72	36.58
1989	28.936	1,444.49	1,036.20	272.47	1.53	97.71	43.72
1990	29.380	1,581.46	1,134.02	284.52	2.95	116.25	51.05
1991	29.865	1,745.74	1,227.45	328.12	2.47	136.65	56.60
1992	30.384	1,793.82	1,223.60	355.61	2.10	155.91	

Table II.F2.—Incurred Charges or Costs Per Enrollee: Historical Data

Year ending June 30.	Average enrollment (millions)	All services	Physician	Out-patient hospital	Home health agency <sup>1</sup>	GPPP <sup>2</sup>	Independent lab
1993	30.889	1,879.09	1,236.57	399.65	3.44	181.07	58.36
1994	31.250	2,003.30	1,306.36	426.43	3.56	208.45	58.50
Disabled (excluding ESRD):							
1975	1.817	214.01	178.14	27.44	4.17	2.72	1.54
1980	2.646	484.79	383.23	83.88	6.62	5.86	5.20
1985	2.595	932.41	731.99	173.84	0.00	12.35	14.23
1986	2.632	1,016.31	782.05	197.50	0.00	16.96	19.80
1987	2.681	1,122.71	861.32	216.66	0.00	21.63	23.10
1988	2.728	1,215.70	901.37	259.42	0.00	29.41	25.50
1989	2.762	1,298.01	970.47	264.89	0.00	34.34	28.31
1990	2.804	1,373.26	1,009.86	292.28	0.00	36.00	35.12
1991	2.867	1,496.44	1,078.20	335.76	0.00	40.84	41.64
1992	3.013	1,547.36	1,067.49	388.78	0.00	44.84	46.25
1993	3.204	1,650.87	1,099.36	451.09	0.00	51.49	48.93
1994	3.455	1,735.84	1,160.40	471.66	0.00	52.28	51.50

<sup>1</sup>Since July 1, 1981, home health agency services have been almost exclusively provided by the Medicare HI program. However, for those SMI enrollees not entitled to HI, the coverage of these services is provided by the SMI program. Since all SMI disabled enrollees are entitled to HI, their coverage of these services is provided by the HI program.

<sup>2</sup>Group practice prepayment plan

### c. Per Enrollee Increases

#### (1) Physician Services

Per enrollee charges for physician services are affected by a variety of factors. One factor, increase in average charge per service, can be identified explicitly. Others can be recognized only by the fact that the increase in the average charge per service does not explain all of the increase in per enrollee charges year-to-year.

The increase in the average charge per service is an important factor creating the increase in charges per enrollee. The physician fee component of the CPI provides an approximation of the historical increases in submitted charge per service. Increases in this index are shown in the first column of table II.F3.

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Table II.F1.—Incurred Reimbursement Amounts Per Enrollee: Historical Data

Year ending June 30.	Average enrollment (millions)	All services	Physician	Out-patient hospital	Home health agency <sup>1</sup>	GPPP <sup>2</sup>	Independent lab
<b>Aged:</b>							
1970	19.312	\$99.90	\$90.02	\$5.91	\$1.99	\$1.50	\$0.48
1975	21.504	161.29	136.28	16.47	3.83	3.07	1.64
1980	24.287	343.55	277.24	47.62	7.58	7.05	4.06
1985	26.914	686.30	538.90	111.70	1.05	19.52	15.13
1986	27.453	771.84	583.88	133.84	1.19	31.70	21.23
1987	28.013	915.79	681.41	164.70	0.98	43.13	25.57
1988	28.497	1,009.81	728.87	187.08	1.54	62.26	30.06
1989	28.936	1,114.53	795.94	207.64	1.53	74.46	34.96
1990	29.380	1,210.96	863.01	214.65	2.91	88.48	41.91
1991	29.865	1,338.34	935.23	247.62	2.45	103.84	49.20
1992	30.384	1,383.92	938.87	269.93	2.10	116.34	54.88
1993	30.889	1,452.58	950.89	303.87	3.44	137.68	56.70
1994	31.250	1,551.37	1,007.06	325.27	3.56	159.00	56.48

Disabled (excluding ESRD):

1975	1.817	150.98	125.63	18.84	3.58	1.87	1.06
1980	2.846	363.79	287.98	61.61	6.08	4.30	3.82
1985	2.585	706.77	553.47	130.37	0.00	9.26	13.67
1986	2.632	774.22	593.65	148.76	0.00	12.77	19.04
1987	2.681	859.93	657.08	164.13	0.00	16.39	22.33
1988	2.728	927.02	684.87	195.65	0.00	22.18	24.32
1989	2.762	999.89	744.96	201.73	0.00	26.15	27.05
1990	2.804	1,047.77	766.78	219.99	0.00	27.34	33.66
1991	2.867	1,141.61	818.25	252.34	0.00	30.91	40.11
1992	3.013	1,187.11	814.85	293.58	0.00	33.86	44.82
1993	3.204	1,270.58	842.35	341.71	0.00	39.00	47.52
1994	3.455	1,338.06	890.58	358.12	0.00	39.69	49.69

<sup>1</sup>Since July 1, 1981, home health agency services have been almost exclusively provided by the Medicare HI program. However, for those SMI enrollees not entitled to HI, the coverage of these services is provided by the SMI program. Since all SMI disabled enrollees are entitled to HI, their coverage of these services is provided by the HI program.

<sup>2</sup>Group practice prepayment plan.

Table II.F2.—Incurred Charges or Costs Per Enrollee: Historical Data

Year ending June 30.	Average enrollment (millions)	All services	Physician	Out-patient hospital	Home health agency <sup>1</sup>	GPPP <sup>2</sup>	Independent lab
<b>Aged:</b>							
1970	19.312	\$153.63	\$137.87	\$9.43	\$3.17	\$2.40	\$0.76
1975	21.504	237.88	201.04	25.03	4.66	2.49	2.49
1980	24.287	466.42	376.29	66.24	8.44	9.80	5.65
1985	26.914	911.56	718.35	150.16	1.05	26.24	15.76
1986	27.453	1,018.84	774.28	178.90	1.19	42.37	22.10
1987	28.013	1,198.71	896.03	218.12	0.98	57.12	26.46
1988	28.497	1,325.49	961.14	248.55	1.55	82.72	31.53
1989	28.936	1,444.49	1,036.20	272.47	1.53	97.71	36.58
1990	29.380	1,581.46	1,134.02	284.52	2.95	116.25	43.72
1991	29.865	1,745.74	1,227.45	328.12	2.47	136.65	51.05
1992	30.384	1,793.82	1,223.60	355.61	2.10	155.91	56.60

reduction if it exceeds the median charge that the physician assessed for the same service in the base period, the 12-month period ending 6 months prior to the beginning of the fee-screen year. This median charge is called the "customary charge." Fees are subject to further reduction if they exceed the prevailing charges for the locality. The prevailing charge is defined as the 75th percentile of customary charges for a particular service in a particular locality. Since July 1, 1975, the rate of increase in prevailing charges has been limited further by the application of the Medicare Economic Index (MEI). The customary and prevailing charge limits maintained by the carriers are called "fee screens." Allowed charges are charges after they have been reduced by the fee screens and are the charges on which reimbursement is based.

Public Law 101-239 provides for the replacement of customary and prevailing charges with fee schedules for physician services starting in calendar year 1992. The fee schedules are based on a resource-based relative value scale. The fee schedule amount is equal to the product of the procedure's relative value, a conversion factor and a geographic adjustment factor. Payments are based on the lower of the actual charge and the fee schedule amount. For the 4-year period from 1992 to 1995, the fee schedule amounts were adjusted to reflect the prevailing charges in each fee screen area.

Certain services included with the physician services are subject to special reimbursement rules. Beginning July 1, 1984 a unique fee schedule was established for laboratory tests performed in physician offices and independent laboratories. Since that time other unique fee schedules or reimbursement mechanisms have been established for certain other services, including anesthesiology, certified registered nurse anesthetists, and DME.

Since legislation has twice changed the time span of the fee-screen year, and since the two transitional fee-screen years (1985 and 1986) cover 15-month periods, data presented in tables II.F1 through II.F9 are displayed for the same 12-month basis for all years. This basis is the 12-month period ending June 30.

The average reduction in submitted fees has increased almost every year. The result is that the net increase in allowed fees due to price changes (i.e., the increase in fee levels allowed for reimbursement purposes) has been less than the increase in submitted fees for most years. This fact is illustrated in table II.F3 where the first column represents increases in submitted fees per service and the second column shows the increase in the allowed fees per service.

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Per capita charges also have increased each year as a result of a number of possible factors including more physician visits per enrollee, the aging of the Medicare enrollment, greater use of specialists and more expensive techniques, and certain administrative actions. The third column of table II.F3 shows the increases in charges per enrollee resulting from these residual causes. Because the measurement of increased allowed charges per service is subject to error, this error is included implicitly under residual causes.

The last column of table II.F3 shows the total increases in charges per enrollee for physician services. It includes the effects of all the items discussed above and is the compound product of the second and third columns.

Projected increases in total allowed charges per enrollee are shown in table II.F4. It compares with the corresponding historical data shown in table II.F3. Column 1 of table II.F4 shows the projected increases in the physician fee component of the CPI in each of the years ending June 30, 1995 through June 30, 2006. It represents an estimate of projected increases in the charges for all physician services (not only Medicare services) and, as such, represents the increase in submitted fees. Column 2 shows the projected net increases in allowed charges, and column 3 shows the increases due to residual causes. The last column is the compound product of columns 2 and 3.

**Table II.F4.—Components of Increases in Total Allowed Charges Per Enrollee for Physician Services: Intermediate Estimates**  
(In percent)

Year ending June 30,	Increase due to price changes		Residual factors <sup>1</sup>	Total increase in allowed charges per enrollee
	Increase in physician fee component of CPI	Net increase in allowed fees		
Aged:				
1995	4.4	4.4	2.7	7.2
1996	4.1	2.1	4.5	6.7
1997	4.0	0.5	6.2	6.7
1998	4.3	0.9	5.6	6.6
1999	4.4	0.0	4.5	4.5
2000	4.1	-0.5	5.4	4.9
2001	4.5	-0.3	5.9	5.6
2002	4.5	0.1	5.9	6.0
2003	4.3	0.5	5.8	6.3
2004	4.0	0.8	5.7	6.5
2005	3.9	1.0	5.6	6.7
2006	3.9	1.1	5.6	6.8



**Table II.F4.—Components of Increases in Total Allowed Charges Per Enrollee for Physician Services: Intermediate Estimates**  
[In percent]

Year ending June 30	Increase due to price changes		Residual factors <sup>1</sup>	Total increase in allowed charges per enrollee
	Increase in physician fee component of CPI	Net increase in allowed fees		
Disabled (excluding ESRD):				
1995	4.4	4.4	5.2	9.8
1996	4.1	2.1	3.3	5.5
1997	4.0	0.5	5.0	5.5
1998	4.3	0.9	3.7	4.6
1999	4.4	0.0	1.3	1.3
2000	4.1	-0.5	3.4	2.9
2001	4.5	-0.3	7.6	7.3
2002	4.5	0.1	5.2	5.3
2003	4.3	0.5	4.9	5.4
2004	4.0	0.8	4.8	5.6
2005	3.9	1.0	4.7	5.7
2006	3.9	1.1	4.6	5.8

<sup>1</sup>See footnote 1 of table II.F3.

## (2) Institutional and Other Services

The historical increases in charges and costs per enrollee for institutional and other services are shown in table II.F5, and the projected increases are shown in table II.F6. The year-to-year changes in some services have been quite erratic. In spite of that fact, the historical trend in these series is used to determine the future trends.

**Table II.F5.—Increases in Recognized Charges and Costs Per Enrollee for Institutional and Other Services: Historical Data**  
[In percent]

Year ending June 30	Outpatient hospital	Home health agency <sup>1</sup>	Group practice prepayment plan	Independent lab
Aged:				
1970	39.3	3.3	-2.8	18.7
1975	29.2	83.5	26.6	32.4
1980	13.8	8.8	42.4	20.7
1985	16.2	6.1	15.7	25.8
1986	19.1	13.3	61.5	40.2
1987	21.9	-17.6	34.8	19.7
1988	14.0	58.2	44.8	19.2
1989	9.6	-1.3	18.1	16.0
1990	4.4	92.8	19.0	19.5
1991	15.3	-16.3	17.5	16.8
1992	8.4	-15.0	14.1	10.9
1993	12.4	63.6	16.1	3.1
1994	6.7	3.5	15.1	0.2

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**Table II.F5.—Increases in Recognized Charges and Costs Per Enrollee for Institutional and Other Services: Historical Data**

[In percent]

Year ending June 30.	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Disabled (excluding ESRD):				
1975	17.1	0.2	64.8	55.6
1980	17.5	17.2	106.3	18.7
1985	3.2	0.0	11.5	19.3
1986	13.6	0.0	37.3	39.1
1987	9.7	0.0	27.5	16.7
1988	19.7	0.0	36.0	10.4
1989	2.1	0.0	16.8	11.0
1990	10.3	0.0	4.8	24.1
1991	14.9	0.0	13.4	18.6
1992	15.8	0.0	9.8	11.1
1993	16.0	0.0	14.8	5.8
1994	4.6	0.0	1.5	5.3

<sup>1</sup>Since July 1, 1981, home health agency services have been almost exclusively provided by the Medicare HI program. However, for those SMI enrollees not entitled to HI, the coverage of these services is provided by the SMI program. Since all SMI disabled enrollees are entitled to HI, their coverage of these services is provided by the HI program.

**Table II.F6.—Increases in Recognized Charges and Costs Per Enrollee for Institutional and Other Services: Intermediate Estimates**

[In percent]

Year ending June 30.	Outpatient hospital	Home health agency <sup>1</sup>	Group practice prepayment plan	Independent lab
Aged:				
1995	11.8	79.0	14.7	3.2
1996	12.5	17.3	19.9	6.2
1997	9.8	16.5	18.8	10.6
1998	10.0	16.4	17.0	11.4
1999	13.5	16.2	17.0	10.8
2000	11.3	16.4	17.0	11.2
2001	10.0	16.5	17.0	11.4
2002	9.9	16.6	17.0	11.3
2003	9.9	16.4	17.0	11.4
2004	9.9	16.4	17.0	11.4
2005	9.9	16.4	17.0	11.4
2006	9.9	16.4	17.0	11.4
Disabled (excluding ESRD):				
1995	15.9	0.0	6.4	2.1
1996	13.0	0.0	17.2	7.2
1997	13.7	0.0	10.7	12.0
1998	13.1	0.0	10.0	11.8
1999	16.8	0.0	10.0	8.7
2000	14.4	0.0	10.2	11.4
2001	16.1	0.0	10.0	16.5

Table II.F6.—Increases In Recognized Charges and Costs Per Enrollee for Institutional and Other Services: Intermediate Estimates

[In percent]				
Year ending June 30.	Outpatient hospital	Home health agency <sup>1</sup>	Group practice prepayment plan	Independent lab
2002	13.7	0.0	9.8	13.5
2003	13.4	0.0	10.1	12.2
2004	13.4	0.0	10.1	12.2
2005	13.4	0.0	10.1	12.2
2006	13.4	0.0	10.1	12.2

<sup>1</sup>See footnote 1 of table II.F5*d. Projected Charges and Costs*

Table II.F7 shows projections of per enrollee incurred charges and costs based on the assumptions in tables II.F4 and II.F6. Table II.F8 shows the total reimbursement amounts per enrollee that result from subtracting the average amounts of copayment per enrollee from the total covered charges in table II.F7. The aggregate reimbursement amounts shown are derived by multiplying average enrollment by average reimbursement per enrollee.

Table II.F7.—Incurred Charges or Costs Per Enrollee: Intermediate Estimates

Year ending June 30.	All services	Physician	Outpatient hospital	Home health agency <sup>1</sup>	Group practice prepayment plan	Independent lab
<b>Aged:</b>						
1995	\$2,183.05	\$1,400.19	\$476.94	\$6.37	\$239.19	\$60.36
1996	2,288.59	1,493.94	536.41	7.47	286.69	64.08
1997	2,604.12	1,594.87	589.18	8.70	340.50	70.87
1998	2,835.29	1,699.55	648.25	10.13	398.42	78.94
1999	3,076.80	1,775.71	735.76	11.77	466.10	87.46
2000	3,337.85	1,862.66	818.89	13.70	545.35	97.25
2001	3,629.35	1,965.93	901.04	15.96	638.08	108.34
2002	3,960.98	2,084.81	990.31	18.60	746.82	120.64
2003	4,335.28	2,217.55	1,088.23	21.65	873.50	134.35
2004	4,755.43	2,362.84	1,195.83	25.20	1,021.94	149.62
2005	5,226.25	2,520.61	1,314.07	29.34	1,195.61	166.62
2006	5,753.07	2,690.56	1,444.01	34.16	1,398.79	185.55
<b>Disabled (excluding ESRD):</b>						
1995	1,928.70	1,273.99	546.46	0.00	55.65	52.60
1996	2,081.90	1,343.08	617.26	0.00	65.20	56.36
1997	2,253.78	1,416.97	701.53	0.00	72.17	63.11
1998	2,425.85	1,482.45	793.44	0.00	79.41	70.55
1999	2,593.02	1,502.34	926.60	0.00	87.39	76.69
2000	2,787.12	1,645.04	1,060.36	0.00	96.28	85.44

## Actuarial Analysis

Table II.F7.—Incurred Charges or Costs Per Enrollee: Intermediate Estimates

Year ending June 30	All services	Physician	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
2001	3,093.93	1,657.29	1,231.18	0.00	105.90	99.56
2002	3,375.49	1,745.86	1,400.38	0.00	116.23	113.02
2003	3,683.24	1,840.35	1,588.11	0.00	127.94	126.84
2004	4,027.54	1,943.34	1,801.01	0.00	140.83	142.36
2005	4,411.73	2,054.49	2,042.45	0.00	155.02	159.77
2006	4,839.55	2,173.34	2,316.26	0.00	170.64	179.31

<sup>1</sup>See footnote 1 of table II.F5.

Table II.F8.—Incurred Reimbursement Amounts: Intermediate Estimates

Year ending June 30	Average enrollment [millions]	Reimbursement amounts	
		Per enrollee	Aggregate [millions]
Aged:			
1995	31.544	\$1,695.28	\$53,476
1996	31.855	1,860.74	59,274
1997	32.132	2,034.86	65,384
1998	32.314	2,221.89	71,798
1999	32.501	2,417.06	78,557
2000	32.687	2,628.29	85,911
2001	32.900	2,864.29	94,235
2002	33.096	3,132.83	103,684
2003	33.318	3,435.80	114,474
2004	33.586	3,775.95	126,819
2005	33.874	4,157.23	140,822
2006	34.196	4,583.90	156,751
Disabled (excluding ESRD):			
1995	3.684	1,492.13	5,497
1996	3.872	1,614.93	6,253
1997	4.073	1,753.99	7,144
1998	4.303	1,892.87	8,145
1999	4.528	2,027.39	9,180
2000	4.749	2,184.25	10,373
2001	4.960	2,432.26	12,064
2002	5.167	2,660.15	13,745
2003	5.370	2,909.12	15,622
2004	5.572	3,187.54	17,761
2005	5.769	3,498.35	20,182
2006	5.993	3,844.65	23,041

## 2. Estimates under the Intermediate Assumptions for Persons Suffering from End-Stage Renal Disease

Certain persons suffering from ESRD have been eligible to enroll for SMI coverage since July 1973 (under Section 2991 of Public Law 92-603). For analytical purposes, those enrollees suffering from ESRD who are also eligible as disability insurance beneficiaries are included in this section because their per enrollee costs are both higher and different in nature from those of most other disabled persons.

The estimates under the intermediate assumptions reflect the unique payment mechanism through which ESRD services are reimbursed under Medicare. Also, the estimates assume a continued increase in enrollment. The historical and projected enrollment and costs for SMI benefits are shown in table II.F9.

Table II.F9.—Enrollment and Incurred Reimbursement for End-Stage Renal Disease

Year ending June 30.	Average enrollment [thousands]		Reimbursement [millions]	
	Disabled ESRD	ESRD only	Disabled ESRD	ESRD only
Historical Data:				
1975	7	11	\$84	\$131
1980	19	22	235	299
1985	30	37	430	522
1986	32	40	455	562
1987	34	43	480	592
1988	36	46	546	673
1989	38	51	601	787
1990	40	56	640	908
1991	43	62	726	1,087
1992	46	68	850	1,260
1993	50	73	988	1,422
1994	54	77	1,104	1,539
Intermediate Estimates:				
1995	59	82	1,260	1,701
1996	63	86	1,435	1,875
1997	68	91	1,619	2,052
1998	73	95	1,822	2,241
1999	77	100	2,038	2,431
2000	82	104	2,276	2,635
2001	87	109	2,573	2,896
2002	91	113	2,901	3,181
2003	95	117	3,249	3,476
2004	100	121	3,635	3,801
2005	104	125	4,069	4,161
2006	108	129	4,554	4,559

## Actuarial Analysis

### 3. Summary of Aggregate Reimbursement Amounts on a Cash Basis Under the Intermediate Assumptions

Table II.F10 shows aggregate historical and projected reimbursement amounts on a cash basis under the intermediate assumptions, by type of beneficiary. The difference between reimbursement amounts on a cash basis and incurred reimbursement amounts results from the lag between the time of service and the time of payment. Over time this lag has been decreasing.

Table II.F10.—Aggregate Reimbursement Amounts on a Cash Basis

(In millions)

Fiscal Year <sup>1</sup>	Aged	Disabled [excluding ESRD]	Disabled ESRD and ESRD only	Total
Historical Data:				
1970	\$1,979	—	—	\$1,979
1975	3,289	\$259	\$217	3,765
1980	8,497	1,026	621	10,144
1985	19,077	1,793	938	21,808
1986	22,067	2,091	1,011	25,169
1987	26,350	2,456	1,131	29,937
1988	29,796	2,614	1,272	33,682
1989	32,748	2,694	1,425	36,867
1990	36,837	3,062	1,599	41,498
1991	40,198	3,474	1,842	45,514
1992	42,779	3,752	2,096	48,627
1993	45,652	4,344	2,413	52,409
1994	50,113	5,156	2,737	58,006
1995	54,603	5,879	3,009	63,491
Intermediate Estimates:				
1996	59,796	6,349	3,233	69,378
1997	66,381	7,311	3,585	77,277
1998	73,145	8,347	3,964	85,456
1999	80,069	9,425	4,362	93,856
2000	87,625	10,726	4,805	103,156
2001	96,169	12,389	5,366	113,924
2002	105,893	14,120	5,956	125,969
2003	117,005	16,054	6,588	139,647
2004	129,694	18,252	7,291	155,237
2005	144,105	20,768	8,076	172,949

<sup>1</sup>For 1970 and 1975, fiscal years cover the interval from July 1 through June 30; fiscal years 1980-2005 cover the interval from October 1 through September 30.

#### 4. Administrative Expenses

The ratio of administrative expenses to benefit payments has been under 5 percent in recent years and is projected to decline in future years. Projections of administrative costs are based on estimates of changes in average annual wages.

#### 5. Projections of Cash Disbursements Under Alternative Assumptions

Cash disbursements (benefit payments and administrative expenses) for the high cost and low cost alternatives were developed by examining the cash disbursements under the intermediate assumptions as a percentage of GDP. Beginning in the middle of calendar year 1996, the rate of growth of cash benefits under the low cost alternative as a percentage of the GDP is assumed to be 2 percent less than the rate of growth of the benefits under the intermediate assumptions as a percentage of the GDP. Similarly, the rate of growth of the cash benefits under the high cost alternative as a percentage of the GDP is assumed to be 2 percent more than the rate of growth of the cash benefits under the intermediate assumptions as a percentage of the GDP. Administrative expenses under the low cost and the high cost alternatives are projected based on their respective wage series growth. Based on the above methodology, cash disbursements as a percentage of the GDP were calculated for all three sets of assumptions and are displayed in table II.F11.

Table II.F11.—SMI Cash Disbursements as a Percent of the Gross Domestic Product for Calendar Years 1995-2005<sup>1</sup>

Calendar year	Intermediate Assumptions	Alternatives	
		Low Cost	High Cost
1995	0.92	0.92	0.92
1996	0.96	0.95	1.00
1997	1.02	0.98	1.09
1998	1.07	1.01	1.12
1999	1.12	1.03	1.20
2000	1.17	1.06	1.29
2001	1.22	1.09	1.34
2002	1.28	1.12	1.42
2003	1.34	1.16	1.52
2004	1.41	1.19	1.64
2005	1.48	1.23	1.76

<sup>1</sup>Disbursements are the sum of benefit payments and administrative expenses.





## III. APPENDICES

**A. LONG-RANGE ESTIMATES OF MEDICARE INCURRED  
DISBURSEMENTS AS A PERCENTAGE OF GROSS  
DOMESTIC PRODUCT**

Expressing Medicare incurred disbursements as a percentage of the gross domestic product (GDP) gives a relative measure of the size of the Medicare program compared to the general economy. The projection of this measure affords the public an idea of the relative financial resources that will be necessary to pay for Medicare services.

Table III.A1 shows estimated incurred disbursements for the HI and SMI programs under the intermediate assumptions expressed as a percentage of GDP, for selected years over the period 1995-2070. These incurred disbursements assume no change in current law for any specific program legislation or for any comprehensive health care reform. The 75-year projection period fully allows for the presentation of future contingencies that reasonably may be expected to occur, such as the impact of a large increase in enrollees which occurs after the turn of the century. This large increase in enrollees occurs because the relatively large number of persons born during the period between the end of World War II and the mid-1960's (known as the baby boom) will reach retirement age and begin to receive benefits.

**Table III.A1.—HI and SMI Incurred Disbursements as a Percent of Gross Domestic Product<sup>1</sup>**

Calendar year	Disbursements as a percent of GDP		
	HI	SMI	Total
1995	1.63	0.92	2.55
1996	1.71	0.98	2.69
2000	1.97	1.17	3.14
2005	2.20	1.49	3.69
2010	2.41	1.97	4.38
2015	2.73	2.47	5.20
2020	3.13	2.82	5.95
2025	3.52	3.17	6.69
2030	3.92	3.47	7.39
2035	4.22	3.61	7.83
2040	4.40	3.61	8.01
2045	4.52	3.55	8.07
2050	4.59	3.51	8.10
2055	4.62	3.54	8.16
2060	4.75	3.64	8.39
2065	4.89	3.74	8.63
2070	5.04	3.79	8.83

<sup>1</sup>Disbursements are the sum of benefit payments and administrative expenses.

## *Appendices*

For HI, program costs beyond the first 25-year projection period are based on the assumption that costs per unit of service will increase at the same rate as average hourly earnings. The associated aggregate disbursements are then represented as a percentage of GDP. For SMI, increases in the costs per enrollee during the initial 25-year period are assumed to gradually decline in the last 12 years to the same rate as GDP per capita and then to continue at the same rate as GDP per capita in the next 50 years. Given the historical experience of SMI costs per enrollee increasing faster than GDP per capita, the assumption of the increases in costs per enrollee declining to the same rate as GDP per capita may be considered optimistic because changes in the last 50 years of the estimation period reflect only the impact of the changing demographic composition of the population. However, assuming a continuation of the historical trend would result in an SMI program so large as a percentage of GDP that it would be implausible given other demands on those resources.

Based on these assumptions, incurred Medicare disbursements as a percent of GDP are projected to increase rapidly from 2.55 percent in 1995 to 7.83 percent in 2035 and then to increase gradually to 8.83 percent in 2070. After 2035, while Medicare disbursements as a percent of GDP increase more slowly, the HI percentage grows steadily while the SMI percentage decreases slightly through 2050 and then increases again through 2070.

**B. STATEMENT OF ACTUARIAL ASSUMPTIONS AND BASES  
EMPLOYED IN DETERMINING THE MONTHLY ACTUARIAL  
RATES AND THE MONTHLY PREMIUM RATE FOR THE  
SUPPLEMENTARY MEDICAL INSURANCE PROGRAM  
BEGINNING JANUARY 1996<sup>2</sup>**

**1. Actuarial Status of the Supplementary Medical Insurance  
Trust Fund**

Under the law, the starting point for determining the monthly premium is the amount that would be necessary to finance the SMI program on an incurred basis; that is, the amount of income that would be sufficient to pay for services furnished during that year (including associated administrative costs) even though payment for some of these services will not be made until after the close of the year. The portion of income required to cover benefits not paid until after the close of the year is added to the trust fund and used when needed.

The rates are established prospectively and are, therefore, subject to projection error. Additionally, legislation enacted after the financing has been established but, effective for the period for which the financing has been set, may affect program costs. As a result, the income to the program may not equal incurred costs. Therefore, trust fund assets should be maintained at a level that is adequate to cover a moderate degree of variation between actual and projected costs in addition to the amount of incurred but unpaid expenses. Table III.B1 summarizes the estimated actuarial status of the trust fund as of the end of the financing period for 1994 and 1995.

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<sup>2</sup>This statement appeared in the Federal Register on October 16, 1995. Projections shown in this statement differ from the projections shown in the rest of the report because of changes in assumptions since the preparation of this statement.

## Appendices

**Table III.B1.—Estimated Actuarial Status of the SMI Trust Fund as of the End of the Financing Period**

[In billions of dollars]

Financing Period Ending	Assets	Liabilities	Assets less liabilities
Dec. 31, 1994	\$19 422	\$4 049	\$15 373
Dec. 31, 1995	\$18 531	\$4 876	\$13 655

### 2. Monthly Actuarial Rate for Enrollees Age 65 and Older

The monthly actuarial rate for enrollees age 65 and over is one-half of the monthly projected cost of benefits and administrative expenses for each enrollee age 65 and older, adjusted to allow for interest earnings on assets in the trust fund and a contingency margin. The contingency margin is an amount appropriate to provide for a moderate degree of variation between actual and projected costs and to amortize any surplus or unfunded liabilities.

The monthly actuarial rate for enrollees age 65 and older for 1996 was determined by projecting per-enrollee cost for the 12-month periods ending June 30, 1996, and June 30, 1997, by type of service. Although the actuarial rates are now applicable for calendar years, projections of per-enrollee costs were determined on a July to June period, consistent with the July annual fee screen update used for benefits prior to the passage of section 2306(b) of Pub. L. 98-369. The values for the 12-month period ending June 30, 1993, were established from program data. Subsequent periods were projected using a combination of program data and data from external sources. The projection factors used are shown in table III.B2. Those per-enrollee values are then adjusted to apply to a calendar year period. The projected values for financing periods from January 1, 1993, through December 31, 1996, are shown in table III.B3.

**Table III.B2.—Projection Factors<sup>1</sup>  
12-month Periods Ending June 30 of 1993-1997**

[In percent]

12-month period ending June 30,	Physicians' services		Outpatient hospital services	Home health agency services <sup>4</sup>	Group practice prepayment plans	Independent lab services
	Fees <sup>2</sup>	Residual <sup>3</sup>				
Aged:						
1993	0.5	0.4	12.4	63.8	16.1	2.8
1994	2.7	3.0	7.4	4.2	15.5	-0.4

# Calendar Year 1996 Financing Rates

**Table III.B2.—Projection Factors<sup>1</sup>**  
**12-month Periods Ending June 30 of 1993-1997**

[In percent]

12-month period ending June 30	Physicians' services		Outpatient hospital services	Home health agency services <sup>4</sup>	Group practice prepayment plans	Independent lab services
	Fees <sup>2</sup>	Residual <sup>3</sup>				
1995	4.4	4.8	15.1	15.0	17.7	1.6
1996	2.2	6.8	8.1	15.0	33.7	6.6
1997	-0.3	8.6	9.8	16.2	17.6	10.6

Disabled:

1993	0.5	4.1	16.2	0.0	14.8	11.4
1994	2.7	3.7	1.7	0.0	-14.0	9.5
1995	4.4	2.9	18.9	0.0	11.6	1.3
1996	2.2	4.7	15.4	0.0	43.2	4.0
1997	-0.3	6.7	14.6	0.0	13.5	9.4

<sup>1</sup>All values are per enrollee.

<sup>2</sup>As recognized for payment under the program.

<sup>3</sup>Increase in the number of services received per enrollee and greater relative use of more expensive services.

<sup>4</sup>Since July 1, 1981, home health agency services have been almost exclusively provided by the Medicare HI program. However, for those SMI enrollees not entitled to HI, the coverage of these services is provided by the SMI program. Since all SMI disabled enrollees are entitled to HI, their coverage of these services is provided by the HI program.

**Table III.B3.—Derivation of Monthly Actuarial Rate for Enrollees Age 65 and Over**  
**Financing Periods Ending December 31, 1993 Through December 31, 1996**

	Financing Periods			
	CY 1993	CY 1994	CY 1995	CY 1996
Covered services (at level recognized):				
Physicians' reasonable charges	\$52.97	\$57.04	\$62.34	\$67.74
Outpatient hospital and other institutions	17.28	19.25	21.44	23.36
Home health agencies	0.15	0.16	0.19	0.21
Group practice prepayment plans	8.13	9.49	11.99	14.92
Independent lab	2.43	2.38	2.43	2.64
Total services	\$80.96	\$88.32	\$98.39	\$108.87
Cost-sharing:				
Deductible	-3.68	-3.70	-3.73	-3.75
Coinurance	-14.67	-16.13	-18.09	-20.12
Total benefits	\$62.61	\$68.49	\$76.57	\$85.00
Administrative expenses	1.91	1.95	1.99	2.05
Incurred expenditures	\$64.52	\$70.44	\$78.56	\$87.05

## Appendices

**Table III.B3.—Derivation of Monthly Actuarial Rate for Enrollees Age 65 and Over  
Financing Periods Ending December 31, 1993 Through December 31, 1996**

	Financing Periods			
	CY 1993	CY 1994	CY 1995	CY 1996
Value of interest	-2.45	-2.49	-2.05	-2.28
Contingency margin for projection error and to amortize the surplus or deficit	6.43	-6.15	-3.41	0.13
<b>Monthly actuarial rate</b>	<b>\$70.50</b>	<b>\$61.80</b>	<b>\$73.10</b>	<b>\$84.90</b>

The projected monthly rate required to pay for one-half of the total of benefits and administrative costs for enrollees age 65 and over for 1996 is \$87.05. The monthly actuarial rate of \$84.90 provides an adjustment of -\$2.28 for interest earnings and \$0.13 for a contingency margin. Based on current estimates, it appears that the assets are sufficient to cover the amount of incurred but unpaid expenses and to provide for a moderate degree of projection error. Thus, only a slight positive contingency margin is needed to maintain assets at an appropriate level.

An appropriate level for assets depends on numerous factors. The most important of these factors are: (1) the difference from prior years between the actual performance of the program and estimates made at the time financing was established and (2) the expected relationship between incurred and cash expenditures. Ongoing analysis is made of the former as the trends in the differences vary over time.

### 3. Monthly Actuarial Rate for Disabled Enrollees

Disabled enrollees are those persons enrolled in SMI because of entitlement (before age 65) to disability benefits for more than 24 months or because of entitlement to Medicare under the end-stage renal disease program. Projected monthly costs for disabled enrollees (other than those suffering from end-stage renal disease) are prepared in a fashion exactly parallel to the projection for the aged, using appropriate actuarial assumptions (see table III.B2). Costs for the end-stage renal disease program are projected differently because of the different nature of services offered by the program. The combined results for all disabled enrollees are shown in table III.B4.

## Calendar Year 1996 Financing Rates

**Table III.B4.—Derivation of Monthly Actuarial Rate for Disabled Enrollees Financing Periods Ending December 31, 1993 Through December 31, 1996**

	Financing Periods			
	CY 1993	CY 1994	CY 1995	CY 1996
Covered services (at level recognized):				
Physicians' reasonable charges	\$61.64	\$65.31	\$69.84	\$74.34
Outpatient hospital and other institutions	40.38	42.66	46.89	51.47
Home health agencies	0.00	0.00	0.00	0.00
Group practice prepayment plans	1.92	1.88	2.41	3.03
Independent lab	2.86	3.00	3.11	3.31
Total services	\$106.80	\$112.85	\$122.25	\$132.15
Cost-sharing:				
Deductible	-3.47	-3.50	-3.53	-3.55
Coinsurance	-20.02	-21.19	-23.02	-24.95
Total benefits	\$83.31	\$88.16	\$95.70	\$103.65
Administrative expenses	2.68	2.42	2.40	2.39
Incurred expenditures	\$85.99	\$90.58	\$98.10	\$106.04
Value of interest	-2.33	-1.62	-0.93	-1.11
Contingency margin for projection error and to amortize the surplus or deficit	-0.76	-12.86	8.63	0.17
Monthly actuarial rate	\$82.90	\$76.1 <sup>1</sup>	\$105.80	\$105.10

The projected monthly rate required to pay for one-half of the total of benefits and administrative costs for disabled enrollees for 1996 is \$106.04. The monthly actuarial rate of \$105.10 provides an adjustment of -\$1.11 for interest earnings and a \$0.17 for a contingency margin. Based on current estimates, it appears that assets are sufficient to cover the amount of incurred but unpaid expenses and to provide for a moderate degree of variation between actual and projected costs. Thus, only a slight positive contingency margin is needed to maintain assets at an appropriate level.

### 4. Sensitivity Testing

Several factors contribute to uncertainty about future trends in medical care costs. In view of this, it is appropriate to test the adequacy of the rates announced here using alternative assumptions. The most unpredictable factors that contribute significantly to future costs are outpatient hospital costs, physician residual (as defined in table III.B2), and increases in physician fees as governed by the program's physician fee schedule that began implementation January 1, 1992. Two

## *Appendices*

alternative sets of assumptions and the results of those assumptions are shown in table III.B5. One set represents increases that are lower and is, therefore, more optimistic than the current estimate. The other set represents increases that are higher and is, therefore, more pessimistic than the current version. The values for the alternative assumptions were determined from a study on the average historical variation between actual and projected increases in the respective increase factors. All assumptions not shown in table III.B5 are the same as in table III.B2.

Table III.B5 indicates that, under the assumptions used in preparing this report, the monthly actuarial rates would result in an excess of assets over liabilities of \$13.696 billion by the end of December 1996. This amounts to 15.9 percent of the estimated total incurred expenditures for the following year. Assumptions that are somewhat more pessimistic (and, therefore, test the adequacy of the assets to accommodate projection errors) produce a surplus of \$0.268 billion by the end of December 1996, which amounts to 0.3 percent of the estimated total incurred expenditures for the following year. Under fairly optimistic assumptions, the monthly actuarial rates would result in a surplus of \$26.240 billion by the end of December 1996, which amounts to 33.7 percent of the estimated total incurred expenditures for the following year.



Table III.B5.—Actuarial Status of the SMI Trust Fund Under Three Sets of Alternative Assumptions for Financing Periods Through December 31, 1996

	This projection			Low cost projection			High cost projection		
	12-Month period ending June 30,			12-Month period ending June 30,			12-Month period ending June 30,		
	1995	1996	1997	1995	1996	1997	1995	1996	1997
Projection factors (in percent):									
Physician fees <sup>1</sup>									
Aged	4.4	2.2	-0.3	4.2	1.0	-2.1	4.6	3.4	1.5
Disabled	4.4	2.2	-0.3	4.2	1.0	-2.1	4.6	3.4	1.5
Utilization of physician services <sup>2</sup>									
Aged	4.8	6.8	8.6	3.0	4.6	6.1	6.7	9.0	11.0
Disabled	2.9	4.7	6.7	0.0	1.8	3.6	5.8	7.7	9.8
Outpatient hospital services per enrollees									
Aged	15.1	8.1	9.8	10.7	3.5	4.9	19.5	12.7	14.8
Disabled	18.9	15.4	14.6	13.6	9.9	9.0	24.3	21.0	20.3
	As of December 31,			As of December 31,			As of December 31,		
	1994	1995	1996	1994	1995	1996	1994	1995	1996
Actuarial status (in billions):									
Assets	\$19 422	\$18 531	\$19 327	\$19 422	\$22 020	\$29 345	\$19 422	\$14 854	\$8 499
Liabilities	4 049	4 876	5 631	1 886	2 567	3 105	6 245	7 229	8 231
Assets less liabilities	\$15 373	\$13 655	\$13 696	\$17 536	\$19 453	\$26 240	\$13 177	\$7 625	\$0 268
Ratio of assets less liabilities to expenditures (in percent) <sup>3</sup>	22.2	17.6	15.9	26.7	27.2	33.7	18.1	9.0	0.3

<sup>1</sup>As recognized for payment under the program.<sup>2</sup>Increase in the number of services received per enrollee and greater relative use of more expensive services<sup>3</sup>Ratio of assets less liabilities at the end of the year to the total incurred expenditures during the following year, expressed as a percent.

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### **5. Premium Rate**

As determined by section 1839(a)(3) of the Act, the monthly premium rate for 1996, for both aged and disabled enrollees, is \$42.50.

### C. GLOSSARY

**Actuarial rates.** One half the expected monthly cost of the SMI program for each aged enrollee (for the aged actuarial rate) and one half of the expected monthly cost for each disabled enrollee (for the disabled actuarial rate) for the duration the rate is in effect.

**Actuarial status.** A measure of the adequacy of the financing as determined by the difference between assets and liabilities at the end of the periods for which financing was established.

**Administrative expenses.** Expenses incurred by the Department of HHS and the Department of the Treasury in administering the SMI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses, which are paid from the SMI trust fund, include expenditures for contractors to determine costs of and make payments to providers as well as salaries and expenses of HCFA.

**Advisory Council on Social Security.** Prior to the enactment of the Social Security Independence and Program Improvements Act of 1994 (Public Law 103-296) on August 15, 1994, the Social Security Act required the appointment of an Advisory Council every 4 years to study and review the financial status of the OASDI and Medicare programs. The most recent Advisory Council was appointed on June 9, 1994, and is currently reviewing the financial status of the OASDI program. Under the provisions of Public Law 103-296, this is the last Advisory council to be appointed.

**Aged enrollee.** An individual, age 65 or over, who is enrolled in the SMI program.

**Allowed charge.** Individual charge determined by a carrier for a covered SMI medical service or supply.

**Amortization.** Process of the gradual retirement of an outstanding debt by making periodic payments to the trust fund.

**Assets.** Treasury notes and bonds guaranteed by the federal government and cash held by the trust funds for investment purposes.

**Assumptions.** Values relating to future trends in certain key factors which affect the balance in the trust funds. Demographic assumptions include fertility, mortality, net immigration, marriage, divorce,

## *Appendices*

retirement patterns, disability incidence and termination rates, and changes in the labor force. Economic assumptions include unemployment, average earnings, inflation, interest rates, and productivity. Three sets of economic assumptions are presented in the Trustees Report:

- (1) The low cost alternative with relatively rapid economic growth, low inflation, and favorable (from the standpoint of program financing) demographic conditions.
- (2) The intermediate assumptions represent the Trustees best estimates of likely future economic and demographic conditions.
- (3) The high cost alternative with slow economic growth, more rapid inflation, and financially disadvantageous demographic conditions.

**Average market yield.** A computation which is made on all marketable interest-bearing obligations of the United States. It is computed on the basis of market quotations as of the end of the calendar month next preceding the date of such issue.

**Baby boom.** The period from the end of World War II through the mid-1960s marked by unusually high birth rates.

**Beneficiary.** A person enrolled in the SMI program. See also "Aged enrollee" and "Disabled enrollee."

**Benefit payments.** The amounts disbursed for covered services after the deductible and coinsurance amounts have been deducted.

**Board of Trustees.** A Board established by the Social Security Act to oversee the financial operations of the Federal SMI Trust Fund. The Board is composed of six members, four of whom serve automatically by virtue of their positions in the federal government: the Secretary of the Treasury, who is the Managing Trustee, the Secretary of Labor, the Secretary of HHS, and the Commissioner of Social Security. The other two members are appointed by the President and confirmed by the Senate to serve as public representatives. Stephen G. Kellison and Marilyn Moon began serving 4-year terms on July 20, 1995. The Commissioner of Social Security became a member of the Board effective March 31, 1995, under Public Law 103-296, approved August 15, 1994. The Administrator of HCFA serves as Secretary of the Board of Trustees.

**Bond.** A certificate of ownership of a specified portion of a debt due by the federal government to holders, bearing a fixed rate of interest.

**Carrier.** A private or public organization, under contract to HCFA, to administer the SMI benefits under Medicare. Also referred to as "contractors," these organizations determine coverage and benefit amounts payable and make payments to physicians, suppliers, and beneficiaries.

**Cash basis.** The costs of the service at the point payment was made rather than when the service was performed.

**Certificate of indebtedness.** A short-term certificate of ownership of 12 months or less of a specified portion of a debt due by the federal government to individual holders, bearing a fixed rate of interest.

**Coinsurance.** Portion of the SMI costs paid by the beneficiary after meeting the annual deductible.

**Consumer Price Index (CPI).** A measure of the average change in prices over time in a fixed group of goods and services. In this report, all references to the CPI relate to the CPI for Urban Wage Earners and Clerical Workers (CPI-W).

**Contingency.** Funds included in the trust fund to serve as a cushion in case actual expenditures are higher than those projected at the time financing was established. Since the financing is set prospectively, actual experience may be different than the estimates used in setting the financing.

**Contingency margin.** An amount included in the actuarial rates to provide for changes in the contingency level in the trust fund. Positive margins increase the contingency level and negative margins decrease it.

**Covered services.** Services for which SMI pays, as defined and limited by statute. Covered services are provided for most physician services, care in outpatient departments of hospitals, diagnostic tests, DME, ambulance services, and other health services which are not covered by the HI program.

**Deductible.** The annual amount payable by the beneficiary for covered services before Medicare makes reimbursement.

**Demographic assumptions.** See "Assumptions."

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**Disability.** For Social Security purposes, the inability to engage in substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or to last for a continuous period of not less than 12 months. Special rules apply for workers age 55 or older whose disability is based on blindness. The law generally requires that a person be disabled continuously for 5 months before he or she can qualify for a disabled-worker cash benefit. An additional 24 months is necessary to qualify under Medicare.

**Disabled enrollee.** An individual under age 65 who has been entitled to disability benefits under Title II of the Social Security Act or the Railroad Retirement System for at least 2 years and who is enrolled in the SMI program.

**Durable medical equipment (DME).** Items such as iron lungs, oxygen tents, hospital beds, wheelchairs, and seat lift mechanisms which are used in the patient's home and are either purchased or rented.

**Economic assumptions.** See "Assumptions."

**Economic stabilization program.** A legislative program during the early 1970s that limited price increases.

**End-stage renal disease (ESRD).** Permanent kidney failure.

**Fee-screen year.** A specified period of time in which SMI recognized fees pertain. The fee-screen year period has changed over the history of the program.

**Fiscal year (FY).** The accounting year of the United States Government. Since 1976, each fiscal year has begun on October 1 of the prior calendar year and ended the following September 30. For example, fiscal year 1996 began October 1, 1995 and will end September 30, 1996.

**General fund of the Treasury.** Funds held by the Treasury of the United States, other than revenue collected for a specific trust fund (such as SMI) and maintained in a separate account for that purpose. The majority of this fund is derived from individual and business income taxes.

**General revenue.** Income to the SMI trust fund from the general fund of the Treasury.

**Gross Domestic Product (GDP).** The total dollar value of all goods and services produced in a year in the United States, regardless of who supplies the labor or property.

**Group practice prepayment plan (GPPP).** An organization which has a formal arrangement with three or more full-time physicians to provide certain health services to the plan's members who, through the advance payment of premiums, have contributed toward the cost of services. The most prevalent arrangement is a Health Maintenance Organization (HMO).

**High cost alternative.** See "Assumptions."

**Home health agency (HHA).** A public agency or private organization which is primarily engaged in providing skilled nursing services, other therapeutic services, such as physical, occupational, or speech therapy, and home health aide services, in the home.

**Hospital Insurance (HI).** The Medicare program which covers specified inpatient hospital services, posthospital skilled nursing, home health services, and hospice care for aged and disabled individuals who meet the eligibility requirements. Also known as Medicare Part A.

**Incurred basis.** The costs based on when the service was performed rather than when the payment was made.

**Independent laboratories.** A free-standing clinical laboratory meeting conditions for participation in the Medicare program and billing through a carrier.

**Interest.** A payment for the use of money during a specified period.

**Intermediary.** A private or public organization, under contract to HCFA, to determine costs of and make payments to providers for HI and certain SMI services.

**Intermediate assumptions.** See "Assumptions."

**Low cost alternative.** See "Assumptions."

**Medicare.** A nationwide, federally administered health insurance program authorized in 1965 to cover the cost of hospitalization, medical care, and some related services for most people over age 65. In 1972, coverage was extended to people receiving Social Security Disability

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Insurance payments for 2 years, and people with ESRD. Medicare consists of two separate but coordinated programs—Part A (hospital insurance, HI) and Part B (supplementary medical insurance, SMI). Almost all persons aged 65 or over or disabled entitled to HI are eligible to enroll in the SMI program on a voluntary basis by paying a monthly premium. Health insurance protection is available to Medicare beneficiaries without regard to income.

**Medicare Economic Index (MEI).** An index which is often used in the calculation of the increases in the prevailing charge levels that help to determine allowed charges for physician services. In 1992 and later, this index is considered in connection with the update factor for the physician fee schedule.

**Medicare Volume Performance Standard (MVPS).** A system for establishing goals for the rate of growth in expenditures for physicians' services.

**Old-Age, Survivors, and Disability Insurance (OASDI).** The Social Security programs which pay for (1) monthly cash benefits to retired-worker (old-age) beneficiaries and their spouses and children and to survivors of deceased insured workers (OASI) and (2) monthly cash benefits to disabled-worker beneficiaries and their spouses and children and for providing rehabilitation services to the disabled (DI).

**Outpatient hospital.** Part of the hospital providing services covered by SMI including services in an emergency room or outpatient clinic, ambulatory surgical procedures, medical supplies, such as splints, laboratory tests billed by the hospital, etc.

**Part A.** The Medicare Hospital Insurance program.

**Part B.** The Medicare Supplementary Medical Insurance program.

**Performance standard factor.** A legislated reduction to the volume and intensity factor of the MVPS.

**Provider.** Any organization, institution, or individual who provides health care services to the Medicare beneficiaries. Physicians, ambulatory surgical centers, and outpatient clinics are some of the providers of services covered under Medicare Part B.

**Residual factors.** Factors other than price which include volume of services, intensity of services, and age/sex changes.



**Resource-based relative value scale.** A scale of national uniform relative values for all physicians' services. The relative value of each service must be the sum of relative value units representing physician work, practice expenses net of malpractice expenses, and the cost of professional liability insurance.

**Social Security Act.** Public Law 74-271, enacted August 14, 1935 with subsequent amendments. The Social Security Act consists of 20 titles, of which four have been repealed. The HI and SMI programs are authorized by Title XVIII of the Social Security Act.

**Special public-debt obligation.** Securities of the United States Government issued exclusively to the OASI, DI, HI, and SMI trust funds and other federal trust funds. Section 1841(a) of the Social Security Act provides that the public-debt obligations issued for purchase by the SMI trust fund shall have maturities fixed with due regard for the needs of the funds. The usual practice in the past has been to spread the holdings of special issues, as of each June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Special public-debt obligations are redeemable at par at any time.

**Supplementary Medical Insurance (SMI).** The Medicare program which pays for a portion of the costs of physician's services, outpatient hospital services, and other related medical and health services for voluntarily insured aged and disabled individuals. Also known as Part B.

**SMI premium.** Monthly premium paid by those individuals who have enrolled in the voluntary SMI program.

**Term insurance.** A type of insurance which is in force for a specified period of time.

**Trust fund.** Separate accounts in the United States Treasury mandated by Congress whose assets may only be used for a specified purpose. For the SMI trust fund, monies not withdrawn for current benefit payments and administrative expenses are invested in interest-bearing federal securities, as required by law; the interest earned is also deposited in the trust fund.

*Appendices**D. STATEMENT OF ACTUARIAL OPINION*

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial status of the Federal Supplementary Medical Insurance Trust Fund are based upon sound principles of actuarial practice and are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial status of the trust fund, taking into consideration the experience and expectations of the program.

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